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OF THE

ASSEMBLY OF THE STATE OF NEW YORK.

ONE HUNDRED AND NINTH SESSION,

1886.

VOLUME VII.—Nos. 76 to 87 inclusive.

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1886.

STATE OF NEW YORK.

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IN ASSEMBLY,

March 3, 1886.

ANNUAL REPORT

OF THE COMPTROLLER, SHOWING THE EXPENDITURES ON THE CANALS FOR THE YEAR ENDING SEPTEMBER 30, 1885.

STATE OF NEW YORK:

Comptroller's office,
Bureau of Canal Affairs,
Albany, *March* 1, 1886.

To the Honorable the Speaker of the Assembly .

Sir — I herewith transmit the annual report required by law from this office, showing the expenditures on the canals for the fiscal year ending September 30, 1885.

Very respectfully,
Your obedient servant,
ALFRED C. CHAPIN,
Comptroller.

273296

REPORT.

STATE OF NEW YORK:

COMPTROLLER'S OFFICE, BUREAU OF CANAL AFFAIRS,
ALBANY, *March* 1, 1886.

To the Legislature:

The Comptroller, in obedience to the requirements of the statute, submits the following report of expenditures on the several canals of the State, for the fiscal year ending September 30, 1885.

The following is a summary statement of the amounts expended by the Superintendent of Public works during such fiscal year, the particular items of which are fully exhibited in the tables appended hereto, and particularly referred to in such summary:

EXPENDED BY SUPERINTENDENT OF PUBLIC WORKS, FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1885.

Erie Canal — See A.

James Shanahan,	General account.......	$5,672 15	
" "	Eastern Division......	105, 949 28	
" "	Middle Division	45, 810 72	
" "	Western Division	62, 774 35	
" "	Extraordinary Repairs.	36, 226 13	
			$256, 398 20

Erie Canal Enlargemeat — See B.

James Shanahan..	19, 947 32

Champlain Canal — See C.

Sames Shanahan..	142, 021 76

Black River Canal — See D.

James Shanahan..	35, 419 70

Oswego Canal — See E.

James Shanahan..	9, 564 96

Cayuga and Seneca Canal — See F.

James Shanahan..	7, 795 13

Chenango Canal — See G.

James Shanahan	$14,633 77

Genesee Valley Canal — See H.

James Shanahan	485 00

Chemung Canal — See I.

James Shanahan	1,006 82
	$487,272 66

There was in the hands of the Superintendent of Public Works at the close of the fiscal year, $5,725.63.

Engineers.

The expenses of the engineer corps on the several canals in this State, during the last fiscal year, amount to the sum of $27,042.61, and are particularly set forth in statement J, appended hereto. They are distributed amoung the several canals as follows:

Erie canal	$20,227 10
Champlain canal	13,158 83
Black River canal	1,419 94
Cayuga and Seneca canal	373 71
Oswego canal	374 58
Total	$35,554 16

Statement K gives the amount expended for repairs by each superintendent; the amount for each section by superintendents, and the average cost per mile.

Statement L is a comparative statement of expenditures by superintendent on each canal in 1882 and 1885.

Statement M gives the average cost per mile for each division of the Erie canal by the superintendents (including payments to repair contractors) for a series of years.

Statement N gives the amount expended by the superintendents and resident engineers (including payments to repair contractors), and the average cost per mile on each and all the canals from 1826 to 1885.

Statement O gives the total amounts expended for repairs of old and the erection of new work on the Erie canal (in three divisions) from 1835 to 1885.

Statement P gives the total amounts expended for repairs of old and the erection of new work on the Champlain canal, and the average cost per mile from 1835 to 1885.

Statement Q gives the expenditures for repairs by the superintendent, resident engineers, canal commissioners and superintendent of public works (including payments to repair contractors) for twenty-two years ending with 1885.

Respectfully submitted,
ALFRED C. CHAPIN,
Comptroller.

DOCUMENTS.

DOCUMENTS.

(A)

ERIE CANAL.

General.

1884.			
Oct.	31.	W. W. Henry, salary and expenses as special agent, October	$164 66
Dec.	1.	W. W. Henry, salary and expenses as special agent, November	156 60
Nov.	6.	Jno. J. Cunningham, salary and expenses as special agent, October	156 32
Dec.	2.	Jno. J. Cunningham, salary and expenses as special agent, November	128 78
Oct.	31.	Hudson River Tel. Co., use of telephone, Tribes Hill, October	12 75
1885.			
Jan.	1.	Hudson River Tel. Co., use of telephone, Tribes Hill, December	12 50
	2.	Jno. J. Cunningham, salary and expenses as special agent, December	118 47
	2.	W. W. Henry, salary and expenses as special agent, December	165 66
	8.	James Finlan, bridge tolls, October to January	8 25
	8.	James Finlan, bridge tolls, June to October,	7 50
	28.	Alson Portland C. Co., cement	1,914 00
	30.	W. B. Wemple's Sons, water wheel and attachment	822 40
Feb.	2.	Hudson River Tel. Co., rental, etc., Tribes Hill	13 00
May	13.	Jno. J. Cunningham, salary and expenses, April	127 60
June	1.	Jno. J. Cunningham, salary and expenses, May	135 25
April	30.	Hudson River Tel. Co., rental, etc., April.	12 50
June	1.	Hudson River Tel. Co., rental, etc., May..	13 25
Mar.	31.	W. W. Henry, salary and expenses, March.	163 39
April	30.	W. W. Henry, salary and expenses, April..	171 31
June	1.	W. W. Henry, salary and expenses, May...	160 13
	30.	W. W. Henry, salary and expenses, June..	122 83

1885.			
July	1.	Jno. J. Cunningham, salary and expenses, June	$118 10
	31.	W. W. Henry, salary and expenses, July	147 36
Aug.	1.	Jno. J. Cunningham, salary and expenses, July	146 65
July	1.	Hudson River Tel. Co., use of telephone, June	13 20
Aug.	1.	Hudson River Tel. Co., use of telephone, June	12 50
	31.	W. W. Henry, salary and expenses, August	122 17
Sept.	1.	Jno. J. Cunningham, salary and expenses, August	169 27
	1.	Hudson River Tel. Co., rent of telephone, August	12 95
	30.	W. W. Henry, salary and expenses, September	130 94
Oct.	1.	Jno. J. Cunningham, salary and expenses, September	165 15
	1.	Hudson River Tel. Co., rent of telephone, September	12 70
Feb.	17.	Fisher Brothers, livery	4 50
Mar.	7.	Hudson River Tel. Co., rent of telephone, February	12 75
	13.	James Finlan, bridge tolls	4 06
	31.	Hudson River Tel. Co., rent of telephone, March	12 70
			$5,672 15

EASTERN DIVISION.

1884.			
Oct.	31.	C. H. Shoemaker and others, pay-roll State shop, October	$1,068 68
		J. L. Yates and others, pay-roll scow "Gov. Tilden," October	612 50
		A. Swan and others, pay-roll scow "Gov. Robinson," October	586 25
		J. Gillan and others, pay-roll tug and dredges, October	621 48
		F. McCabe and others, pay-roll quarrying and cutting stone	414 25
		L. Z. Tiffany and others, pay-roll scow	555 00
	23.	T. E. Royall, expense account	17 07
Nov.	17.	Diemel & Snell, lumber	5,417 73
Oct.	1.	N. Y. C. & H. R. R. Co., freight	48 00
Nov.	10.	G. Welch, carpenter, labor	29 00
	21.	E. Phillips, derricks, chains, etc	320 00
	21.	H. Neach, team work towing raft	100 00
	21.	J. Tracy, common labor	10 50

1884.			
Nov.	21.	C. Pichard, furniture for scow "E. Wemple"	$37 64
	21.	W. B. Wemple's Sons, furniture for scow "Gov. Robinson"	13 00
	21.	J. Neach, expense account towing raft to Port Jackson	82 95
	21.	J. Neach, wages towing raft to Port Jackson	50 00
	21.	J. Reilly, coal and wood for tug and dredges	197 95
	21.	J. Reilly, coal and wood for tug and dredges	134 50
	21.	H. G. Burleigh & Brother, lumber	3,010 36
	21.	Eagan & Keenan, blacksmithing tug and dredges	26 26
	21.	R. B. Wing, general merchandise, tug and dredges	139 84
	21.	R. B. Wing, oil, etc., for Cohoes shop	46 92
	21.	M. R. Brown, repairs to dredges, September	97 82
	21.	M. R. Brown, repairs to dredges, October	179 97
	21.	Blackburn & Jones, coal and wood for dredges	200 00
	21.	J. L. Yates and others, pay-roll, scow "E. Wemple"	318 50
	21.	L. Z. Tiffany and others, pay-roll, scow "Gov. Robinson"	283 50
	24.	T. Wilson, pay-roll, moving derricks	53 50
	29.	W. U. Telegh. Co., telegraphing	6 71
Dec.	4.	J. Gillan and others, pay-roll, tug and dredges, November	489 99
	4.	C. H. Shoemaker and others, pay-roll, State shop	802 20
	10.	James Gillen, captain, dredge, December	20 72
	10.	T. Rogers, engineer, tug, December	16 80
	5.	T. E. Royall, expense account	14 35
	6.	Bangs & Gaynor, cement	221 00
	20.	J. Riley, assisting navigation, October and November	150 00
	20.	R. B. Wing, genl. mdse	158 77
	20.	E. Phillips, derrick power	116 80
	20.	W. H. D. Sweet, repairs to dredge and tug	11 68
	20.	W. H. D. Sweet, repairs to dredge	14 96
	22.	Townsend Furnace Co., repairs to dredge and tug	35 89
	22.	Osgood Dredge Co., repairs to dredge	12 28
	22.	Osgood Dredge Co., repairs to dredge	33 14

1884.			
Dec.	22.	D. Fitzpatrick, supplies for dredge	$5 85
	23.	Eagan & Heenan, repairs to tug	8 50
	24.	T. Knowlson, lumber	50 42
	24.	J. McMahon, team work	4 00
	24.	J. D. Simcox, castings	3 03
	24.	C. H. Shoemaker, expense account	6 84
	24.	N. Y. C. & H. R. R. Co., freight	5 50
	24.	W. Burton's Sons, saving	12 50
	24.	J. Campbell, stationery	8 15
	24.	G. E. Thompson, brooms	2 75
	24.	A. McChesney, towing	10 00
	24.	E. Kelly, towing	10 00
	24.	J. H. Starbuck, repairs to dredge	63 06
	24.	Farrow & Son, glass	5 95
	24.	Farrow & Son, paint and oil	12 56
	24.	H. Green, Sons & Co., hardware and iron.	43 93
	24.	H. Green, Sons & Co., hardware and iron.	138 83
	24.	H. Green, Sons & Co., hardware and iron.	201 65
	24.	W. C. Travis, lumber	4 22
	24.	W. C. Travis, lumber	22 60
	24.	Bottum & Lancaster, repairs at State shop.	21 97
	24.	Bottum & Lancaster, repairs, pump boat, etc	5 85
	24.	C. B. Laithe, hardware	13 91
	24.	C. B. Laithe, hardware	6 10
	24.	C. B. Laithe, hardware	3 80
	24.	Cohoes Iron Fdy. and M. Co., castings, etc	30 90
	24.	Cohoes Iron Fdy. and M. Co., repairs, dredge, etc	8 28
	24.	Cohoes Iron Fdy. and M. Co., repairs, etc., for State shop	18 75
	23.	John Riley, coal	145 64
	26.	J. N. Parker, lock poles	250 00
	29.	Deimel & Snell, lumber	2,751 34
	10.	L. Duply, team work, towing dredge	15 00
	25.	E. Dwyer, team work, towing dredge	15 00
	26.	J. Cronk, meals—men, towing dredge	1 20
	26.	N. J. Clute, meals—men, towing dredge	3 40
	30.	Blackburn & Jones, coal for State shop and dredge	655 30
1885.			
Jan.	6.	L. E. Harder, towing dredge	5 00
	8.	Jackson & Son, lumber	866 13
	8.	W. B. Wemple's Sons, lock irons	504 36
	12.	J. Gillan, labor on dredge	44 00
	12.	C. H. Shoemaker and others, pay-roll, State shop, December	699 45

1885.			
Jan.	13.	Deimel & Snell, lumber	$940 54
	13.	Deimel & Snell, lumber	150 15
	15.	T. E. Royall, expense account	13 03
	31.	Riley Bros, boiler covering	240 18
Feb.	5.	Com'l Telephone Co., rent and service	6 55
	5.	Robt. Pinkerton, repairing boiler	5 85
	5.	Wm. O. Travis, lumber	2 56
	5.	Bottum & Lancaster, pipe, etc	22 32
	5.	H. Green, Sons & Co., hardware	85 15
	6.	W. B. Memple's Sons, grate bars	76 95
	10.	W. U. Telegraph Co., telegraphing	5 29
	11.	C. H. Shoemaker, expense account	8 68
	11.	C. H. Shoemaker and others, pay-roll State shop	632 00
	12.	Corning & Co., hardware	7 60
	12.	Corning & Co., hardware	67 79
	12.	James Gledhill, repairs Lawrence street bridge	17 15
	12.	R. B. Wing, rope, etc	138 32
	12.	R. K. Oliver, repairs weigh lock	4 06
	13.	James Gillen, repairs dredge No. 2	46 00
	14.	M. Van Buren, casting	6 00
	14.	M. Van Buren, common labor	11 25
	28.	W. N. Johnson, expense account	6 60
Mar.	9.	Mary L. Rexford, admx., royalty on fifty lock gate steps	200 00
	11.	C. H. Shoemaker and others, pay-roll State shop, February	583 53
	11.	James Gillen, labor on dredge repairs	44 00
	14.	J. Farrow & Son, paint, etc	3 53
	14.	W. B. Wemple's Sons, hoisting machinery for W. Weiss	88 00
	14.	W. B. Wemple's Sons, washers	36 78
	14.	J. D. Simcox, castings	6 36
	14.	Cohoes T. F. & M. Co., castings	29 52
	14.	Charles B. Laithe, hardware	9 34
	16.	H. Green's Son & Co., hardware	160 95
	16.	H. Green's Son & Co., hardware	61 11
	23.	Corning & Co., hardware	74 49
	23.	Corning & Co., hardware	32 48
	23.	Corning & Co., hardware	16 89
	23.	Corning & Co., hardware	21 28
	23.	Corning & Co., hardware	15 00
	23.	R. B. Wing, supplies for dredge	43 22
	31.	Geo. W. Cooley, towing	5 00
	31.	W. N. Johnson, expense account	5 73
April	7.	C. H. Shoemaker and others, pay-roll State shop, March	794 58

1885.

April	7.	James Gillan, labor repairing dredge.....	$56 00
	7.	John Riley, labor repairing dredge.......	44 00
	8.	Corning & Co., iron and hardware.......	127 88
	11.	W. U. Telegraph Co., telegraphing........	5 27
	16.	N. Y. C. & H. R. R. R. Co., freight.....	14 00
	20.	James Gillan, expense account..........	23 60
	25.	John P. Angus, blcaksmithing..........	4 90
	25.	W. B. Wemple's Sons, castings.........	7 40
	25.	W. B. Wemple's Sons, castings.........	33 00
	25.	W. B. Wemple's Sons, castings.........	68 58
	27.	M. R. Brown, dredge repairs...........	49 13
	27.	Robt. B. Wing, rope.................	8 55
	28.	Chas. H. Shoemaker, freight, etc........	3 84
	28.	Geo. E. Thompson, salt................	2 00
	28.	Bottum & Lancaster, zinc, etc..........	7 04
	28.	Troy Mowing Machine Co., repairs dredge No. 1...........................	65 99
	28.	Chas. B. Laithe, hardware..............	16 99
	28.	Cohoes I. F. & M. Co., Bolts' machine knives............................	66 12
	28.	J. D. Simcox, castings.................	3 36
	28.	H. Green's Son & Co., iron, etc....	30 17
May	2.	Deimel & Snell, lumber................	428 63
	2.	N. Y. & L. C. Trans. Co., dredge repairs.	32 82
	2.	Wood & Hotchkis, general mdse........	8 49
	2.	O. K. Manville, paints, etc.............	3 56
	2.	Wm. Malan, castings..................	7 00
	2.	P. H. Green, castings.................	4 00
	2.	Whitehall Coal Co., coal for dredge.....	26 05
	2.	C. H. Shoemaker and others, pay-roll State shop, April........................	860 40
	12.	John Reilley and others, pay-roll tug and and dredges, April..................	408 33
	12.	D. & H. Canal Co., freight.............	5 00
	12.	W. U. Telegraph Co., telegraphing......	3 25
	18.	Sewall & Day Co., manilla rope........	254 11
June	5.	James Carlisle, repairs collector's office, Albany..........................	86 81
	8.	C. H. Shoemaker and others, pay-roll State shop, May..........	816 80
	9.	John Reilley and others, pay-roll dredges, May............................	600 73
	9.	W. N. Johnson, expense account...	10 67
Aril	28.	Morrell & Burnap, lumber.	216 04
June	13.	R. B. Wing, supplies for State shop, dredge and tug..........	150 99
	16.	The Townsend Furnace, supplies for State shop dredge and tug................	12 33

1885			
June.	16.	W. R. Brown, repairs dredge and tug	$112 85
	16.	John H. Davis & Son, repairs dredge and tug	166 73
	16.	S. E. Gregory, hardware	16 40
	16.	John McDonough, lamps, etc	8 09
	16.	D. H. Fonda & Co., oil, etc	80 30
	16.	John Reilley, coal and wood	106 51
	16.	Blackburn & Jones, cool and wood	136 00
	16.	John B. Vallen, lubricating compounds	3 00
	16.	J. Farron & Son, paint, etc	11 85
	16.	H. Green, Sons & Co., hardware	28 87
	17.	Corning & Co., hardware	107 68
	17.	Corning & Co., hardware	11 53
	17.	Corning & Co., hardware	67 19
	17.	Jacob Travis & Co., lumber	6 56
	17.	Geo. M. Wiswall, lumber	32 00
	17.	Cohoes I. F. & M. C. Co., machine work	7 60
	17.	Cohoes I. F. & M. C. Co., machine work	15 81
	17.	Com'l Telephone Co., rent and service, April	9 10
	17.	Com'l Telephone Co., rent and service, May	8 00
	18.	Simons & Richards, lumber	38 55
	8.	Deimel & Snell, lumber	186 13
	17.	Bottum & Lancaster, gas pipe, etc	5 32
	17.	Paul Grimm, lead	4 88
	17.	J. D. Simcox, castings	19 98
	17.	Chas. B. Laithe, hardware	18 42
	17.	C. H. Shoemaker, expense account	12 07
	17.	D. & H. Canal Co., freight	31 96
	23.	D. & H. Canal Co., freight	1 94
	23.	National Express Co., transportation	40
	23.	National Express Co., transpoatation	55
	23.	National Express Co., transportation	35
	23.	David Graham, repairs boat	4 29
	23.	Ft. Ann Dry Dock Co., repairs dredge No. 1	17 20
	24.	Jesse Richardson, care of dredge No. 1 in winter	20 00
	24.	Whitehall Coal Co., coal for dredge	69 31
	24.	J. H. Sullivan & Co., rope for dredge	21 25
	24.	Wood & Hotchkiss, tools and furniture for dredge	6 35
	24.	James Doran, mattrasses for dredge	8 25
	24.	Knights & McNeiley, brooms	2 10
	24.	W. B. Wemple's Sons, grate bars for pump boiler	9 18
	24.	P. H. Green, cartage	1 50

1885.			
June	24.	N. Y. & L. C. Trans. Co., repairs dredge.	$5 92
	27.	M. Reddy, tumble gates' casting	11 52
	29.	Mohawk & Hud. Mfg. Co., bronze boxes for tug	9 50
	29.	Troy Mowing Machine Co., repairs tug	17 25
July	1.	M. D. Kilsey, repairs dredge	1 00
	3.	W. N. Johnson, expense account, paying bills	38 65
	3.	C. H. Shoemaker and others, pay-roll State shop, June	942 43
	3.	John Riley, and others, pay roll tug and dredges, June	625 00
	17.	James McCarthy, freight on pipe poles	1 50
	21.	Lyman Holbrook, bridge washers	45 00
	25.	M. McCann, expense account	22 29
	25.	M. McCann, labor	8 00
	25.	Norman Davis, labor	6 00
	25.	E. Phillips, wire guys	17 50
	27.	D. & H. Canal Co., freight on rope	4 06
	29.	W. B. Wemple's Sons, bridge and lock castings	89 10
	29.	W. B. Wemple's Sons, furnishing scow	36 27
	30.	Jas. Hardenof, freight	7 05
Aug.	3.	Thomas Walker, towing dredge	18 00
	4.	Richard Ballard, towing scow	7 00
	4.	James Gillan and others, pay-roll July, dredges and tug	636 61
	5.	Minor Keeler and others, pay-roll July, scow Gov. Tilden	297 84
	6.	C. A. Shoemaker and others, pay-roll July, State shop	852 23
	6.	D. H. Lewis and others, pay-roll repairing Cohoes dam	134 70
	7.	P. V. Schuyler and others, pay-roll July, scow E. Wemple	438 39
	7.	R. H. Heath and others, pay-roll July, scow	106 69
	7.	Frank McCabe and others, pay-roll July, scow	207 50
	8.	James Shults and others, pay-roll July, Gov. Robinson	438 04
	10.	John Reilly, coal	234 10
	10.	Cranker & Snyder, towing scow	17 50
	10.	D. & H. Canal Co., freight on cement	1 25
	11.	P. W. Myers, dredging Albany basin	473 50
	11.	P. W. Myers, use of scows	132 00
	14.	Wm. Dilmore, inspecting tug Mamie Ashe	10 00

1885.			
Aug.	10.	John McDermott, removing wreck from Albany basin	$200 00
Sept.	4.	John McDermott, removing wreck from Albany basin	85 00
Aug.	17.	Eagan & Heenan, blacksmithing	11 25
	17.	D. H. Fonda & Co., oil and paint	16 10
	17.	Robt. Wing & Co., supplies for tug and dredges	88 73
	17.	Robt. Wing & Co., supplies for tug and dredges	79 37
	17.	W. R. Brown, repairs dredge	117 13
	17.	Osgood Dredge Co., repairs dredge	1 09
	17.	Osgood Dredge Co., repairs dredge	95 29
	17.	Eagan and Heenan, repairs dredge	51 02
	17.	Stephen J. Welch, repairs dredge	9 91
	18.	Corning & Co., hardware	334 26
	18.	Corning & Co., hardware	18 64
	18.	J. Strong, brooms	2 54
	20.	The Townsend Furnace, repairs to dredge.	20 00
	20.	The Townsend Furnace, repairs to dredge.	5 46
	20.	W. H. D. Sweet, agent, repairs to dredge.	30 36
	20.	Sewall & Day Cordage Co., manilla rope.	292 61
	25.	Foster & Green, lumber	14 98
	25.	Philip Hogaboom, carpenter labor on scows	13 50
	25.	F. Gilliland & Son, feed boxes, etc	15 58
	25.	Thomas F. Kyne, paint., etc	7 60
	25.	Thomas F. Kine, paint, etc	14 15
	25.	Daniel Vrooman, freight	98
	25.	Lewis Van Epps, sand	1 60
	25.	John McClumpha, wheelbarrows	24 00
	25.	Schuyler & Hobbs, hardware	3 11
	26.	Williams, Tanner & Co., hardware	61 83
	26.	John A. Davis, repairs dredges	256 79
	26.	John A. Davis, repairs tug	90 91
	26.	W. U. Telegraph Co., telegraphing	7 61
	27.	Whitehall Coal Co., coal for dredge	81 00
	28.	Blackburn and Jones, coal for dredge	226 00
	29.	Cohoes I. F. & M. Co., blacksmithing	8 88
	29.	Robt. Pinkerton, repairs pump, boat	20 69
	29.	W. H. Steenburgh, repairs truck for State yard	13 00
	29.	Chas. H. Shoemaker, expense account	8 74
	29.	Chas. H. Shoemaker, expense account	11 11
	29.	Com'l Telephone Co., rental telephone, etc.	10 15
	29.	G. M. Wisewell, lumber	20 40
	29.	J. Travis' sons, lumber	66 93
	29.	J. Travis' Sons, lumber	30 42
	29.	A. J. Griffin, sash, blinds, etc	22 58
	29.	A. J. Griffin, sash, blinds, etc	2 50

1885.			
Aug.	29.	Chas. B. Laithe, hardware	$40 15
	29.	Chas. B. Laithe, hardware	13 78
	29.	Cohoes I. F. & M. Co., repairs at State shop	11 29
	29.	H. Green, Sons & Co., hardware	21 91
	29.	Troy Machine Co., spud iron for dredge	7 73
	29.	J. Farron & Son, paint, etc	9 03
	29.	Casler Bros. & Co., general mdse.	21 38
	31.	Finch & Co., wood and oil	2 86
	31.	Finch & Co., wood and oil	2 29
	31.	E. E. Sexton, blacksmithing, dredge	4 87
	31.	E. E. Sexton, blacksmithing, dredge	4 20
Sept.	2.	Deimel & Snell, lumber	811 37
	5.	J. Shutts, express charges	50
	5.	J. Shutts, express charges	1 00
	7.	W. U. Tel. Co., telegraphing	1 49
	7.	N. Johnson, expense account July and Aug.	19 95
	4.	P. W. Myers, dredging Albany basin	350 00
	7.	D. & H. Canal Co., freight on lumber, etc.	29 25
	12.	J. Hardendorf and others, pay-roll	405 00
	12.	R. H. Heath and others, pay-roll	536 00
	12.	Jas. Shutts and others, pay-roll	518 25
	14.	Jas. Gillan and others, pay-roll	652 09
	15.	M. Kellers and others, pay-roll	485 00
	15.	P. V. Schuyler aad others, pay-roll	537 50
	15.	Frank M. McCabe and others, pay-roll	376 50
	16.	R. D. Viele, freight on lock gates	15 00
	16.	C. A. Shoemaker and others, pay-roll State shop	819 53
	18.	P. W. Myers, dredging Albany basin	52 50
	19.	Shafer Bros., stone, Cohoes dam	1,080 00
	21.	Blackburn & Jones, coal and wood for dredge	260 00
	21.	John Reilly, coal and wood for tug	207 25
	21.	D. H. Lewis and others, pay-roll, repairs Cohoes dam	615 80
	22.	F. O. Norton, cement	137 50
	22.	F. O. Norton, cement	136 25
	22.	Deimel & Snell, lumber	782 33
	23.	R. B. Wing, supplies for dredge	80 52
	23.	Eagan & Heenan, blacksmithing	31 31
	23.	Stephen S. Walsh, dredge repairs	30 82
	23.	Corning & Co, hardware	279 65
	23.	Corning & Co., hardware	62 51
	23.	Osgood Dredge Co., dredge repairs	19 47
	23.	Osgood Dredge Co., dredge repairs	9 19
	23.	D. H. Fonda & Co., oil and lye	2 75
	25.	James Hardendorf, blacksmithing	6 05

1885.			
Sept.	26.	W. B. Wemple's Sons, hardware........	$71 37
	26.	W. R. Walrath, lumber................	209 62
	26.	W. R. Walrath, lumber................	127 14
	26.	D. S. Van Slyke, lumber	228 72
	28.	D. S. Van Slyke, lumber	234 16
	28.	R. B. Wing, supplies for tug and dredges..	68 57
	28.	D. H. Fonda & Co., paints, etc.....	16 72
	28.	Corning & Co., hardware	180 07
	28.	J. Travis' Sons, lumber	8 99
	28.	Wm. Barton's Sons, lumber and sawing ..	3 00
	28.	J. Farron & Son, painting, sounding poles,	13 15
	28.	Commercial Telephone Co., rent, service, August	7 85
	28.	J. H. Hunt, storage on cement..........	2 50
	28.	C. H. Shoemaker, expense account.......	8 85
	28.	Thos. Slavin, hay used at Cohoes dam....	11 20
	28.	W. B. Wemple's Sons, castings, etc......	341 87
	28.	W. B. Wemple's Sons, stove and fixtures..	31 42
	28.	S. E. Gregory, hardware................	19 45
	28.	J. M. King & Co., dies and taps.........	12 00
	28.	C. B. Laithe, hardware..................	5 47
	28.	Cohoes J. F. & M. Co., gears, etc.......	17 92
	28.	Troy M. Mach. Co., dipper racks for dredge	18 62
	28.	Henry Taylor, labor at Cohoes dam......	7 50
	29.	D. H. Lewis & Co., pay roll, September..	826 55
	29.	Button Fire Engine Co., hose, etc........	273 26
	29.	D. H. Lewis, derrick	175 00
	29.	Corning & Co., hardware................	830 86
	29.	Deimel & Snell, lumber.................	6,831 47
	29.	Geo. W. Taft, road scraper	248 00
	30.	Deimel & Snell, lumber	1,873 13
Oct.	7.	W. N. Johnson, expense account.........	17 59
	9.	A. Swan and others, pay roll, boat "Gov. Tilden,".........................	530 75
	10.	P. V. Schuyler and others, pay roll boat "E. Wemple".....................	528 50
	10.	James Shutts and others, pay roll boat "Gov. Robinson".................	539 00
	10.	R. H. Heath and others, pay roll........	540 50
	10.	J. Hardendorfer and others, pay roll road scraper..........................	429 00
	10.	Frank McCabe and others, pay roll, mason boat	385 00
	12.	C. H. Shoemaker and others, pay roll State shop, Cohoes	991 48
	1.	Edward Wright, rope..................	13 09
	20.	W. B. Wemple's Sons, castings	273 66

1885.			
Oct.	21.	P. W. Casler & Co., lumber............	$230 00
	21.	Sewall & Day, Cordage Co., rope...	139 61
	21.	W. Parker, repairs scow....	6 77
	21.	J. Hardendorfer, repairs road scraper	7 20
	22.	C. H. Shoemaker, expense account.......	10 22
	22.	J. Travis & Son, lumber...............	8 33
	24.	D. J. Tittle, Jr., towing...............	163 00
	24.	Commercial Telephone Co., rent and service, September	8 80
	24.	Commercial Telephone Co., rent and service, June........................	7 35
Sept.	17.	J. S. Mahanna and others, pay roll.......	366 38
Oct.	24.	D. H. Fonda & Co., general merchandise.	8 80
	24.	Corning & Co., hardware...............	29 57
	24.	C. B. Laithe, hardware.................	12 55
	24.	Eagan & Heenan, blacksmithing.	16 51
	24.	W. B. Brown, repairs tug and dredge....	210 79
	24.	Osgood Dredge Co., repairs tug and dredge.	4 81
			$70,014 12

Section No. 1.

Dec.	11.	Deimel & Snell, lumber...............	$493 33
	23.	S. E. Gregory, hardware...............	62 61
	23.	Com'l Tel. Co., rent and service October and November....................	15 00
	24.	L. Bornt, use of boat..................	95 00
	24.	Shear & Dunsback, use of boat	95 00
	26.	W. Clapp, repairs to lamps.............	3 00
Nov.	14.	T. Lane and others, pay roll gravelling tow path..........................	2,863 50
Feb.	5.	J. McDonough, rope and stoves.........	78 97
Mch.	18.	Geo. Ruppert, blacksmithing...........	6 60
	18.	Com'l Tel. Co., rent and service, Jan'y...	6 30
April	8.	Corning & Co., hardware...............	85 63
	28.	Wm. L. English, stove pipe.............	7 35
	28.	J. McDonough, repairs, boat pumps, etc..	13 98
	28.	Com'l Tel. Co., rent and service, Feby....	7 45
	28.	Com'l Tel. Co., rent and service, March..	7 25
	28.	A. J. Griffin, repairs sash..............	2 04
May	19.	P. Robinson and others, pay roll	71 50
	28.	T. Richardson & Son, hay...............	13 75
June	17.	J. Travis' Sons, lumber................	16 38
	17.	Corning & Co., hardware...............	38 60
	17.	Corning & Co., hardware...............	15 08
	1.	Sundry locktenders, repairs, lamps, etc...	48 00
Aug.	1.	Sundry locktenders, repairs, June and July.	96 00

1885.			
Aug.	18.	Corning & Co., hardware	$27 53
Oct.	1.	W. H. Smead, lamp chimneys	5 25
	1.	J. J. Dooley, sand and lime	9 50
	1.	Jno. McDonough, lock house stoves, etc.	28 10
	1.	H. L. Haight & Son, lumber	3 00
	1.	E. L. Haight, repairs boats	9 26
	1.	Wm. Clapp, lamp post tops	1 50
	26.	Lock tenders, oil for locks, Aug. and Sep.	96 00
			$4,322 46

Section, No. 2.

Nov.	21.	A. Swan and others, pay roll, "Gov. Tilden"	$237 90
	21.	W. Parker, pay roll, "Gov. Tilden"	2 74
Dec.	5.	D. H. Lewis and others, pay roll	118 00
	11.	Deimel & Snell, lumber	1,812 14
	24.	Egleston, Vedder & Co., lumber	13 45
	24.	R. Richardson, repairs diving suit	2 00
	24.	G. Meyers, drawing sand	21 08
	24.	Estate of B. P. Yates, shop rent October and November	20 00
	24.	J. Van Vranken, horse hire	18 00
	24.	W. H. Helmer, gen'l m'd'se for scows	8 66
	24.	Van Vranken & Conners, blacksmithing	9 58
	24.	J. W. Keenan, coal	6 60
	24.	J. Garry, coal	3 70
	24.	J. G. Greene, coal	9 88
	24.	Demorest & Son, paint	11 39
	24.	J. Lake, paint	16 08
	24.	B. L. Conde, spikes	2 03
	24.	W. J. Swits, hardware	27 42
	24.	H. Kennedy, towing	20 50
	24.	J. W. Bruvs. towing	10 00
	24.	McQueen & Stage, blacksmithing	43 73
	24.	B. L. Conde, hardware	17 63
	24.	W. J. Swits, hardware	29 91
	24.	W. H. Helmes, general merchandise	14 55
	24.	Egleston, Vedder & Co., lumber	27 13
	24.	W. U. Tel. Co , telegraphing	1 37
	26.	W. Hathaway, freight	13 20
	26.	Smith & Monckton, repairs, ice breaker	33 74
	29.	Deimel & Snell, lumber	2,608 40
	29.	W. Hathaway, freight	36 00
1885.			
Jan.	13.	Deimel & Snell, lumber	549 15
Mch.	14.	John C. Loser, manure, etc.	6 10
	14.	James Fort, blacksmithing	4 82

1885.			
Mch.	14.	A. Filson, blacksmithing	$2 50
	14.	A. Filson, blacksmithing	11 30
	16.	John W. Beys, burying dead horse	18 00
			$5,788 60

1884.			
Dec.	8.	D. H. Lewis, stone	$327 00
1885.			
Jan.	10.	D. P. Phillips, coal	6 78
Feb.	4.	H. L. Haight & Son, coal	20 75
	4.	W. U. Tel. Co, telegraphing	2 59
	4.	B. L. Conde, hardware	8 15
	4.	Estate P. B. Yates, shop rent, December and January	20 00
	4.	W. H. Helmer, salt, etc	21 65
	4.	Egleston, Vedder & Co., lumber	11 32
	4	McQueen & Stage, blacksmithing	9 45
	4.	James Munckton, blacksmithing	43 68
	4.	Jno. Crawford, team labor	8 00
	4.	Jacob Crawford, team labor	8 00
	4.	W. J. Swits, hardware	18 19
	4.	The Westinghouse Co., castings	5 12
	4.	N. J. Clute, stone, sand, etc	47 95
	18.	Bangs & Gaynor, cement	189 44
Apr.	25.	W. J. Swits, hardware	6 26
	25.	Wm. Hathaway, freight	11 00
	25.	Garrett Myers, freight	24 00
	27.	Egleston & Vedder, lumber	21 52
	27.	Estate of P. B. Yates, shop rent, February and March	20 00
	27.	John Z. Cornell, blacksmithing	34 04
	27.	Geo. Eaton, Jr., freight	12 00
May	1.	Francis Shears burying dead horses	30 00
June	17.	Corning & Co., hardware	28 88
	17.	Corning & Co., hardware	76 15
	17.	B. L. Conde, hardware	31 85
	17.	W. J. Swits, hardware	79 25
	17.	John Lake, paint	8 30
	17.	Egleston, Vedder & Co., lumber	47 38
	17.	W. H. Helmer, furniture for scows	19 40
	17.	Wolf & Rankin, cement	22 40
	17.	Wm. Hathaway, freight	5 00
	17.	McQueen & Stage, blacksmithing	6 45
	17.	John Z. Connell, blacksmithing	15 35
	17.	James Fort, blacksmithing	3 43
	17.	Smith & Monckton, repairs scow Saratoga.	19 30

1885.			
June	17.	W. U. Tel. Co., telegraphing	$2 00
	17.	Sundry lock tenders, oil, etc.,	18 00
	18.	Jos. H. Hawley, gravel	15 00
	18.	Estate of P. B. Yates, shop rent, April and May	20 00
	27.	D. S. Van Slyke, lumber	213 32
Aug.	17.	A. Fillion, blacksmithing	17 46
	17.	McQueen & Stage, blacksmithing	7 38
	17.	James Fort, blacksmithing	3 65
	17.	W. J. Swits, hardware	42 23
	17.	Egleston, Vedder & Co., lumber	52 12
	17.	W. H. Helmer, general merchandise	3 52
	18.	Estate of P. B. Yates, shop rent, June and July	20 00
	18.	John Lake, paint, etc	22 33
	18.	Wm. Hathaway, transportation	2 70
	18.	B. L. Conde, hardware	2 86
Sept.	4.	Sundry lock-tenders, oil for locks	36 00
	2.	Deimel & Snell, lumber	447 30
	26.	D. H. Fonda & Co., paint, etc	312 85
	29.	Deimel & Snell, lumber	1,672 43
Oct.	12.	Sundry lock-tender, oil for locks	36 00
	21.	B. L. Conde, hardware	27 25
	21.	W. J. Swits, hardware	49 61
	21.	W. Parker, repairs, boat	13 62
	21.	Smith & Munckton, repairs boat	6 10
	21.	Smith & Munckton, repairs boat	4 23
	21.	Smith & Munckton, repairs boat	5 66
	21.	James Fort, blacksmithing	5 95
	21.	A. Fillion, blacksmithing	66 20
	21.	McQueen & Stage, blacksmithing	44 42
	21.	John C. Loser, oil, etc	3 45
	21.	Estate of P. B. Yates, shop rent, August and September	20 00
	21.	Egleston, Vedder & Co., general merchandise	50 24
	21.	Wm. H. Helmer, general merchandise	1 64
			$10,304 15

Section No. 3.

1884.			
Nov.	21.	J. H. Putnam, lamp	$1 00
	21.	J. Graff, snubbing posts	3 00
	21.	Moore & Jansen, hardware	43 13
	21.	Moore & Jansen, barrows and shovels	30 50
	21.	W. Parker, repairs, scow	161 20

1884.			
Nov.	21.	W. Parker, repairs, scow	$32 71
	21.	M. Murphy, mason labor	6 00
	21.	James Hughes, watching Schoharie Creek.	45 00
	21.	A Hilton, blacksmithing	31 15
	21.	J. T. Brown, lumber	5 87
	21.	James Hughes, rope, etc., for scow	14 85
	21.	D. J. Keyser, lumber	71 58
	21.	R. C. Allen, livery	16 00
	21.	M. Dempsey, blacksmithing	38 75
	21.	Whyland Bros., hardware	7 77
	21.	Williams, Fanner & Co., hardware	22 33
	21.	E. S. Gregory, oil and glass	15 91
	21.	E. Shopmier, team labor	10 00
	21.	R. Pickard, coal	4 69
	21.	W. U. Tel. Co., telegrams	5 06
	21.	E. B. Cushney, cement	8 00
	21.	D. J. Storins, coal	6 00
	21.	J. H. Keyser, general merchandise	1 21
	21.	W. Robbins, making connections in locks.	4 00
	21.	W. U. Tel. Co., telegrams	1 55
	21.	J. P. Angus, blacksmithing	14 67
	21.	Foster & Green, lumber, etc	82 64
	21.	G. Van Valkenburgh, blacksmithing	18 30
	21.	Z. F. Tiffany, labor as foreman	36 00
	21.	F. Schuyler and others, pay roll	220 58
	21.	William Platts and others, pay roll	69 00
	24.	N. Y. W. S. & B. R. R., freight	75 48
	29.	J. Mosher, Jr., general merchandise	32 03
	29.	A. J. Davis, horse hire	5 50
	29.	J. L. Mahanna and others, pay roll	8 00
Dec.	15.	J. L. Mahanna and others, pay roll	101 00
	22.	N. Y. C. & H. R. R. R. Co., freight	22 00
	24.	Reed & Bro., tools	3 14
	24.	Cohen & Bro., telephone, etc	4 82
	24.	W. Y. Farley & Bro., hardware	12 82
	24.	Thurwood & Rebell, blacksmithing	17 87
	24.	J. A. Fonda, livery	1 50
	24.	S. Yates, general merchandise for scow	3 90
	24.	P. J. Fonda, horse hire	2 00
	29.	E. Keyser, diving	4 00
	29.	J. Hughes, general merchandise	9 25
	30.	Sarah Hughes, stones Schoharie aqueduct.	168 00
1885.			
Jan.	8.	N. Y. W. S. & B. Ry., freight on cement.	10 80
	8.	D. McClary, towing, etc	54 50
	8.	Schuyler & Hubbs, dishes for scow "Gov. Robinson"	5 88
	8.	T. F. Kyne, paint for bridges	50 45

1885.				
Jan.	13.	Deimel & Snell, lumber	$1, 108	78
	13.	J. Hughes, pay roll, lock 29	228	05
Feb.	3.	Henry Whylands, lumber	189	21
	10.	W. S. Farley & Bro., hardware	9	13
	12.	Deimel & Snell, lumber	913	32
	14.	J. Hughes and others, pay roll	192	83
	14.	Charles Drager, towing	4	00
	14.	D. J. Storms, coal	6	59
	18.	Schuyler & Hubbs, hardware	7	91
	18.	Bangs & Gaynor, cement	88	80
1884.				
Dec.	4.	A. Knock, labor	3	00
	4.	J. Knock, labor	3	75
	4.	C. Knock, labor	8	75
	8.	Patrick Ryan, labor	3	75
1885.				
Jan.	12.	W. & C. H. Downing, coal	3	00
Feb.	12.	H. Reynolds, repairs, scow	28	10
Mch.	13.	John Gordon, lumber	3	45
	13.	A. Hilton, blacksmithing	13	00
	13.	Thurwood & Rebell, blacksmithing	5	40
	13.	D. J. Keyser, lumber, rope, etc	25	06
	13.	M. Van Buren, rope, etc	20	77
	13.	Quackenbush Bros , rope, etc	10	20
	13.	Theo. J. Yerd, furniture for scow	15	25
	13.	S. H. Gage, horse hire	3	00
	13.	G. S. Ten Eyck	5	00
	14.	E. Wemple, sand, etc	30	25
	14.	C. Van Buren, salt	36	00
	14.	Wilson Fox, coal	3	75
	14.	M. McIntire, paint, etc	2	32
	14.	M. McIntire, paint, etc	55	47
	14.	J. W. Dygert, paint, etc	45	56
	14.	Chas. Rickard, paint, etc	4	65
	14.	W. R. Chapman, rope, etc	78	00
	14.	Jacob Shults, wood, etc	33	50
	14.	Edward S. Smith, furniture for scow	4	50
	14.	John Haggerty, rope	10	40
	14.	G. D. Gebauer, blacksmithing	7	38
	14.	J. H. Davis & Son, hardware	32	08
	14.	W. B. Wemple's Sons, machine work, etc,	27	90
	14.	C. Smith, stove, etc	37	75
	14.	Rufus Dodge, nails		49
	16.	Whylard Bros., hardware	11	90
	16.	J. Hughes and others, pay-roll	611	75
	21.	N. Y., W. S. & B. R., freight or cement,	9	90
	23.	D. H. Lewis, stone	647	25
	23.	H. Reynolds, repairs, scows	17	28
	24.	Van Antwerp & Royce, lumber	308	42

1885.				
Mch.	25.	Cooney & Mason, casting stone	$237	32
	31.	N. Y., W. S. & B. R. R. Co., freight	8	00
Apl.	11.	N. Y., W. S. & B. R. R. Co., freight	55	60
	11.	N. Y., W. S. & B. R. R. Co , freight	3	11
	11.	W. R. Walrath, lumber	248	78
	15.	A. Hilton, blacksmithing	38	65
	15.	J. Hughes and othrs, repairs lock 29	181	85
	25.	W. R. Chapman, nails	5	40
May	6.	Bangs & Gaynor, cement	29	60
	12.	J. Barton and others, pay-roll	223	50
	14.	D. W. Vrooman, freight	1	05
	14.	D. W. Vrooman, freight	6	91
	15.	W. Van Buren, team labor	7	00
	15.	Wm. Platt and others, pay-roll	314	20
	14.	J. Hughes and others, pay-roll lock 29	176	00
	19.	Wm. Lasher, burying horses	2	00
	19.	James Hughes, wood, etc	11	20
Dec.	4.	M. Whillips, labors	3	75
	4.	L. Phillips, team work	8	75
June	18.	Monell & Burnap, lumber	160	47
1884.				
Oct.	30.	O. Austin, gravel	18	00
1885.				
June	15.	J. Hughes and others, pay-roll lock 29	144	86
	15.	Sundry lock tenders, oil and lamps, May,	14	00
	23.	John Glochner, blacksmithing		70
	23.	Henry Glossner, blacksmithing	15	19
	23.	A. Hilton, blacksmithing	38	90
	23.	W. R. Walrath, lumber	222	34
	23.	John Wessels, freight	3	00
	23.	C. Wemple, clay	7	50
	23.	Wm. McClary, clay	5	25
	24.	L. W. Lasher, clay	10	25
	24.	L. Van Epps, sand	6	50
	24.	E. Smith, gravel	3	20
	24.	D. Zielly, cement	6	00
	24.	W. Dempsey, blacksmithing	31	65
	24.	J. P. Angus, blacksmithing	29	20
	24.	W. R. Chapman, hardware	8	70
	24.	Whyland Bros., hardware	12	05
	24.	W. B. Wemple's Sons, blacksmithing	34	49
	24.	Moses Bezee, rope	3	60
	24.	D. Quackenbush, lumber	206	77
	25.	Chas. Shapen, clay	5	10
	27.	M. W. Downing, oil	3	20
	27.	W. S. Farley & Bro., hardware	46	50
	29.	G. D. Gebauer, blacksmithing	31	70
	30.	Kinneman & Co	30	40

1885.				
June	30.	H. Crane, labor	$4	50
	30.	William Crego, labor	4	50
	30.	M. Dingman, labor	10	50
	30.	J. L. Reed & Brother, hardware	26	94
July	2.	J. Hughes and others, pay-roll lock 29	50	44
	3.	B. Scott & Son, allowance for puddling in front of warehouse	40	00
	29.	W. B. Wemple's Sons, blacksmithing	64	94
Aug.	17.	J. L. Mahanna and others, pay-roll	89	77
	10.	William Platt and others, pay-roll	9	00
	25.	William Parker, repairs, scows	85	86
	25.	J. Hughes, freight	1	40
	25.	Foster & Green, lumber	9	87
	25.	W. R. Walrath, lumber	45	26
	25.	M. McIntyre, paint, etc	40	37
	25.	Alexander Hilton, blacksmithing	5	20
	25.	Schuyler & Huffs, hardware	7	87
	25.	Moore & Jansen, hardware	22	06
	29.	D. Quackenbush, hardware	1	80
	29.	Jno. P. Angus, blacksmithing	15	25
	29.	M. Dempsey, blacksmithing	20	25
Sept.	1.	Sundry lock tenders, oil for locks	28	00
	2.	Deimel & Snell, lumber	634	79
	2.	D. Quackenbush, lumber and rope	7	64
	7.	E. B. Burnap, lumber	3	75
	22.	Deimel & Snell, lumber	415	49
	22.	Deimel & Snell, lumber	326	60
	26.	W. S. Farley & Brother, hardware	42	94
	26.	W. R. Walrath, lumber	49	65
	26.	D. S. Van Slyke, lumber	145	68
	28.	W. P. Wemple's Sons, hardware	3	93
	30.	Deimel & Snell, lumber	465	47
Oct.	21.	N. Y., W. S. & B. R. R. Co., freight		66
	21.	William Parker, repairs, boats	31	84
	21.	William Parker, repairs, boats	9	96
	21.	Moore & Jansen, shovels	10	00
	21.	W. W. Downing, pails		50
	21.	W. S. Farley & Brother, hardware	104	17
	21.	H. Glasser, blacksmithing	17	40
	21.	L. Buckner, blacksmithing	12	00
	22.	Alexander Hilton, blacksmithing	9	80
	22.	D. W. Vrooman, freight		30
	22.	L. Simmons, pike pole	1	00
	22.	J. Finover, hay, etc	5	00
Sept.	17.	J. L. Mahanna and others, pay-roll	92	63
			$12,174	24

Section No. 4.

1884.			
Nov.	24.	J. McChesney and others, pay roll	$136 00
Dec.	5.	F. Schuyler and others, pay roll	847 88
	11.	Deimel & Snell, lumber	1,291 53
April.	19.	N. Y. C. & H. R. R. R. Co., freight	3 00
Dec.	15.	D. W. Ladue, lumber	10 86
	15.	L. Timmerman, coal	31 00
	15.	D. M. Harris, repairs scow	4 07
	15.	Shepherd & Skinner, hardware	40 50
	15.	W. J. Skinner, Jr., & Co., bags and twine.	8 30
	15.	E. W. Harris, manure	1 00
	15.	W. H. Perry, manure	3 70
	15.	A. Casler, burying horse	2 00
	15.	W. Reddy, lock iron	44 29
	15.	Cristman & Clark, blacksmithing	69 43
	15.	J. Mix, cartage	50
	15.	N. Casler, storage on cement	4 16
	16.	G. Bromhall, cement	14 10
	16.	F. Williams, blacksmithing	7 80
	16.	S. House, sand and snubbing post	3 00
	16.	P. McCaffrey, mason work	5 40
	16.	J. Donohue, mason work	4 50
	16.	J. Diffenbacher, oil	1 25
	16.	W. W. Crosby, hardware	2 15
	16.	Collins & McCarthy, blacksmithing	8 58
	16.	A. C. McGowan, repairs to boats	13 45
	16.	J. Brozolara, rope, etc	15 63
	16.	S. Skinner, stone	24 00
	16.	A. J. Newth, stove pipe for scow	2 00
	16.	J. Watson, sand	3 00
	16.	N. Y. C. & H. R. R. Co., freight	30
	16.	H. A. Daniel, drawing timber	12 00
	16.	E. Washburn, cement	5 40
	17.	M. Fairhout, blacksmithing	1 55
	17.	O. Porter, burying horse	2 00
	18.	Leigh & Co., nails and straw	1 76
	18.	Houghton & Son., lumber	8 62
	18.	McChesney & Co., blacksmithing	74 77
	20.	R. B. Wing, rope	23 71
	23.	S. Getman, sand	8 00
	23.	J. R. Dudleston, gravel	23 00
	18.	J. J. Nichols, pay-roll	15 00
1885.			
Jan.	13.	Deimel & Snell, lumber	319 00
	18.	Deimel & Snell, lumber	1,039 48
1884.			
Oct.	24.	N. Y., W. S. & B. Ry, freight	53

1884.			
	30.	A. Herman, mason labor..............	$2 00
Dec.	3.	A. J. Grant, mason labor...............	4 50
1885.			
Mar.	14.	P. N. Staring, horse hire................	19 00
	14.	Remington & Son, coal................	2 00
	14.	J. W. & C. C. Steele, oil, etc...........	25 89
	14.	W. H. Perry, general merchandise.......	4 11
	14.	W. B. Houghton, lumber...............	56 05
	14.	A. D. Nellis, lumber....................	44 90
	14.	American Express Co., transportation....	1 15
	14.	W. U. Tel. Co., telegraphing	2 30
	14.	Shephard & Skinner, hardware..........	83 12
	14.	Shephard & Skinner, hardware..........	7 15
	14.	H. Hands, casting......................	4 00
	14.	H. C. Keith, shovels....................	38 00
	14.	Remington Agl. Co., bridge repairs......	250 00
	14.	J. E. Casey, stone......................	4 09
	16.	H. M. Boyce, mason labor..............	31 65
	16.	Russell & Sons, lumber.................	33 47
	16.	D. W. Ladue, lumber..................	17 11
	16.	W. H. Van Dusen, coal................	5 20
	16.	N. G. Lower, coal......................	19 15
	16.	L. Timmerman, coal.....................	6 25
	16.	William Collins, blacksmithing..........	4 05
	16.	F. Williams, blacksmithing..............	1 70
	16.	Christman & Clark, blacksmithing.......	12 22
	16.	McChesney & Co., blacksmithing........	3 95
	16.	M. Finehout, blacksmithing.............	3 95
	16.	A. C. McGowan, lock repairs...........	2 50
	16.	D. M. Harris, repairs ice breaker........	24 93
	16.	J. C. Brizolara, general merchandise.....	9 58
	16.	J. S. Senior, repairs stove, etc,..........	16 30
	16.	S. House, tow line......................	2 52
	16.	T. R. Jones, horse hire.	4 00
	16.	J. N. Christy, burying dead horses......	4 00
	16.	H. H. Ballard, expense account..........	4 35
	26.	Warren Edick, repairs lock-house, lock 36..	27 20
April	4.	N. Y., W. S. & B. Ry., freight.........	20 93
May	2.	Deimel & Snell, lumber................	471 39
April	10.	N. Y., W. S. & B. Ry., freight.........	29 00
	25.	N. Y., W. S. & B. Ry., freight.........	10 00
	30.	N. Y., W. S. & B. Ry., freight.........	6 00
May	2.	N. Y. C. & H. R. R. R. Co., freight....	14 40
	12.	H. Marsh, wheel barrows...............	15 00
	12.	Thomas Fox, blacksmithing.............	13 75
	15.	N. Y. C. &. H. R. R. R. Co., freight. ...	14 40
June	13.	H. Bowen, freight......................	6 30
	27.	W. U. Tel. Co., telegraphing..	2 90

1885.				
June	27.	N. Y. C. & H. R. R. R. Co., freight.....	$	25
	27.	Peter Staring, horse hire................	8	75
	27.	D. M. Harris, repairs to scow...........	7	96
	27.	D. M. Harris, repairs to scow...........	26	61
	27.	Christman & Clark, blacksmithing.......	57	38
	27.	Frank William, blacksmithing.....	2	55
	27.	M. Reddy, blacksmithing................	34	12
	27.	McChesney & Co., blacksmithing........	79	42
	27.	Jno. Quackenbush, blacksmithing........		80
	27.	J. Shull, stone.........................	6	79
	27.	P. Casler, sand.........................	16	50
	27.	J. H. Kane, rubber boots.......	3	00
	27.	Deimel & Sherman, rubber boots........	8	50
	27.	C. D. Petrie, lamp fixtures, etc..........	2	00
	27.	F. W. Peters, hardware................	10	20
	27.	J. W. & C. C. Steele, hardware and oil..	4	16
	27.	J. S. Senior, lamp repairs..............	7	75
	27.	W. H. Perry, horse hire................	3	85
	27.	Remington Agl. Co., lumber and labor...	6	26
	27.	D. G. Van Slyke, lumber and labor......	221	44
	27.	Deimel & Snell, lumber....	325	19
	27.	Newell & Little, lumber........... ...		50
	27.	D. W. Ladue, lumber..................	41	28
	27.	Chas. Tucker, hardware................		64
	27.	W. W. Crosby, hardware and oil........	1	43
	27.	Shepherd and Skinner, hardware........	129	90
	27.	G. Broomshall, lime and coal	19	90
	27.	Isaac Christmas, manure...............	1	50
	27.	L. Timmerman, manure................	2	50
	27.	Corporation of Mohawk, use of steamer..	5	00
	27.	Village of Ilion, use of steamer....... ..	5	00
	27.	Sundry lock tenders, oil and lamp repairs..	22	00
July	2.	F. Schuyler, lamp fixtures..............		75
	2.	A. Vincent and others, labor on lock 37..	24	52
	3.	N. Y., W. S. & B. Ry., freight.........		12
	3.	W. Finehout, blacksmithing	2	50
Aug.	17.	L. D. Miller, freight on lock gate	5	00
	29.	N. Y., W. S. &. B. Ry., freight on cement.	2	36
	29.	D. M. Harris, repairs scows............	29	33
	29.	McChesney & Co., blacksmithing........	26	05
	29.	A. Unson, labor........................	51	00
	29.	I. Bellinger, team labor................	1	75
	29.	D. W. Ladue, lumber....	78	85
	29.	F. W. Peters, repairs lock lamps........	2	00
	29.	J. M. Metzger, repairs lock lamps.......	1	97
	29.	Deimel & Snell, rubber boots...........	4	25
	29.	N. Casler, storage on cement...........	3	20

1885.			
Aug.	29.	O. C. Lowell, coal	$8 00
	29.	G. Peter, lumber	1 51
	29.	M. Reddy, blacksmithing	37 54
	29.	Christman & Clark, blacksmithing	19 80
	29.	H. A. Lovejoy, blacksmithing	15 44
	29.	J. S. Senior, stoves, etc., for scows	42 30
	29.	Shepard & Skinner, hardware	63 48
Sept.	1.	N. J. Newth, hardware	7 90
	1.	F. M. McCabe, expense account	3 52
	1.	C. Barringer, burying dead horse	2 00
	2.	Sundry lock tenders, oil for locks	44 00
	2.	Deimel & Snell, lumber	364 55
	2.	D. Campbell, blacksmithing	2 00
	2.	A. C. McGowan, blacksmithing	6 95
	3.	Sam'l Hardiman, blacksmithing	1 00
	3.	J. Deiffenbacher, lantern, etc	1 32
	29.	Deimel & Snell, lumber	388 88
Oct.	1.	N. Y., W. S. &. B. R. R. Co., freight	20 00
	12.	Sundry lock tenders, oil for locks	44 00
	19.	N. Y., W. S. & B. R. R. Co., freight	1 19
	21.	W. W. Crosby, repairs, scows	25
	21.	Remington & Sons, repairs, scows	1 10
	21.	American Express Co., freight	25
	21.	American Express Co., freight	2 85
	21.	N. Y., W. S. & B. R. R. Co., freight	3 35
	21.	N. Y., W. S. & B. R. R. Co., freight	9 38
	21.	J. McChesney, freight	50
	21.	National Express Co., freight	1 20
	21.	Chas Tucker, hardware	1 35
	21.	Shepard & Skinner, hardware	18 90
	21.	Rem. Agl. Co., blacksmithing	4 50
	21.	J. W. & C. C. Steele, paint	4 76
	21.	Howell & Taylor, one dozen stools	6 00
	21.	Howell & Taylor, table	2 50
	21.	D. W. Ladue, lumber	66 17
	21.	Newell & Little, lumber	5 73
	21.	Peter A. Staring, horse hire	10 00
	21.	B. K. Houghton, cement	11 42
	21.	Christman & Clark, blacksmithing	5 75
	21.	McChesney & Co., blacksmithing	5 45
	21.	Thos. Jennings, labor	2 00
	21.	Charles Barringer, drawing stone	1 75
	21.	N. J. Newth, lock lamps	7 22
	21.	Squire House, horse hire	3 00
	21.	Chauncy Casler, burying dead horse	2 50
	22.	G. H. Christy, burying dead horses	14 00
	22.	F. Schuyler, burying dead horses	2 00

1885.			
Oct.	22.	Thos. McLain, burying dead horses	$2 00
	22.	A. Folts, hay	1 33
	22.	R. B. Wing, rope	43 12
	22.	Deimel & Snell, lumber	473 30
June	8.	Deimel & Snell, lumber	489 37
			$9,099 88

Summary.

Eastern division account	$70,014 12	
Section No. 1	4,322 46	
Section No. 2	10,304 15	
Section No. 3	12,174 24	
Section No. 4	9,099 88	
		$105,914 85

Middle division.

1884.			
Nov.	7.	G. M. Clark, traveling expenses, October	$12 43
Dec.	2.	D. Benham and others, pay-roll dredge, November	423 60
	2.	D. Benham and others, pay-roll dredge, December	31 48
	2.	D. P. Plaisted & Sons, stoves for scows	15 80
	4.	Charles Evans, labor on dredge	3 20
	5.	G. M. Clark, traveling expenses, November,	12 86
	5.	George Dinehart, repairs weigh-lock building	26 41
	12.	J. R. Van Sickles, oil, etc	4 14
	12.	Wm. Hamilton, labor on tug	2 00
	12.	George & Co., tallow	2 60
	12.	P. Hamilton, repairs to dredge	18 09
	12.	J. O. Spencer, Son & Co., repairs to dredge	5 00
	12.	Rumsey & Co., repairs to dredge	14 29
	12.	Filsby Manuf. Co., repairs to dredge	1 62
	12.	Patrick Hoey, repairs to dredge	3 25
	12.	Aug. Dunckel, coal for dredge	38 12
	13.	J. O. Seymour, oil for dredge	18 27
	13.	W. B. Dunning, repairs for dredge	3 05
	20.	Grant & Dunn, oil for dredge	14 44
	20.	A. E. Alvord, coal for dredge	65 26
	26.	J. S. Palmer, blacksmithing	2 50
	31.	Mack, Dunn & Co., oil, etc	15 23
1885.			
Jan.	2.	E. J. Berry, watchman dredge	35 00
	2.	G. M. Clark, traveling expenses	22 29

1885.			
Feb.	2.	G. M. Clark, expense account	$3 00
	2.	E. J. Berry, watchman	35 00
	10.	Peter Riley, freight paid	9 20
March	2.	G. M. Clark, expense account	5 97
	2.	E. J. Berry, watchman	35 00
	3.	John M. Duff, storage on cement	16 90
	3.	Mack, Dunn & Co., hardware	2 10
April	1.	G. M. Clark, expense account	3 60
	2.	E. J. Berry, watchman	35 00
	4.	Mack, Dunn & Co., packing boxes and salt	3 25
	28.	Holenbeck & Thomas, coal for dredge	10 70
May	1.	E. J. Berry, watchman	35 00
	1.	R. R. Osmond, pay roll, dredge	261 59
	4.	Luret & Blaisdell, sawing, etc	2 85
	5.	Geo. Draper, blacksmithing	13 69
	5.	Mack, Dunn & Co., hardware	116 88
	26.	A. D. Perry & Co., mold board and seal	5 50
June	2.	G. M. Clark, expense account	32 50
	3.	Chas. Howell and others, pay-roll, painting scow	146 87
	3.	E. J. Barry, watchman	12 42
	3.	D. P. Plaisted & Son, furniture for dredge	43 95
	3.	Butler & Diel, furniture for dredge	7 40
	5.	A. E. Alvord, coal for dredge	20 22
	5.	Hopkins & Abbott, coal for dredge	31 30
	5.	Dey Bros, & Co., bedding for dredge	22 78
	5.	Geo. Draper, blacksmithing for dredge	61 75
	6.	Hiram Pickard and others, pay-roll for dredge	270 77
	10.	Mack, Dunn & Co., hardware, etc	182 07
	13.	Mary Horan, cleaning weigh-lock building	9 00
	24.	Geo. Robbins, labor, weigh-lock building	12 00
	29.	Fred Jenkins, whitewashing weigh-lock building	2 00
	29.	Geo. Dinehart, repairs, weigh-lock building	11 00
July	1.	G. M. Clark, express account, paying bills,	12 80
	3.	Charles Horrell, painting weigh-lock building	63 00
	3.	Jos. Lacy, repairs to pump	3 25
	3.	Mack, Dunn & Co., paint, etc	98 14
	3.	Plaisted & Son, tinsmiths	2 40
	6.	Pack & Clark, masons	38 70
	6.	Phœnix Foundry Co., repairs dredge	172 21
	7.	Geo. Van Skoik, painter	4 60
	7.	H. G. Pickard and others, pay-roll, June,	340 00

1885.			
July	8.	Alfred Tily, plumbing	$60 70
	9.	A. E. Alvord, coal	85 41
	21.	Julius Smith, whitewashing collector's office	2 00
Aug.	1.	G. M. Clark, expense account	5 30
	4.	H. G. Pickard and others, pay-roll	340 00
	6.	Mack, Dunn & Co., hardware	74 83
	11.	Crane, Belden & Co., lumber	68 20
	11.	Alfred Tily, plumbing	6 98
	12.	H. S. Proctor, flag	15 00
	21.	Merriam & Gregory, repairs, blinds, etc.	3 50
Sept.	1.	G. M. Clark, expense account	6 89
	4.	Ayling & Dean, labor, assistant superintendent's office	3 36
	5.	Mack, Dunn & Co., labor, assistant superintendent's office	6 86
	11.	Phœnix Foundry, repairs, tug	223 82
	11.	N. Pickard and others, pay-roll, dredge	330 70
			$4,220 91

Section No. 5.

1884.			
Nov.	6.	J. Proctor, sand	$2 00
	6.	Chesley & Kent, lime	4 05
	6.	George Tibbits & Son, blacksmithing	90
	6.	Rose & Barrett, plank	10 02
	6.	Asa Sherman and others, pay-roll	643 10
	18.	George Dinehart, repairs, Peterboro st. bridge	26 36
	20.	M. Murphy and others, pay-roll	403 25
	20.	O. Felts & Son, blacksmithing	1 25
	20.	Joseph Higgins, blacksmithing	3 60
	20.	Head & Winston, hardware and cement	8 40
	20.	Wardwell Bros., hardware and cement	4 50
	20.	M. Doran, repairs, scow Montezuma	40 08
	20.	M. Doran, manure, hardware, etc.	12 91
	20.	Hugo Kellar, manure, hardware, etc.	4 00
	20.	J. G. Bissell & Co., oil	4 55
	20.	Jacobs & Campbell, lime for scow	14 85
	20.	W. B. Williams & Son, lumber	27 43
	20.	G. V. Shelden, lumber	13 70
	20.	Marcellus & Hill, lumber	14 66
	20.	C. Miller & Son, stove, lift-bridge	6 81
	20.	H. A. Crain, stove, State shop	8 00
	22.	Crane, Belden & Co., pine	358 18
	22.	Philo S. Curtis, chisels	2 42

1884.			
Nov.	22.	N. Y. C. & H. R. R. R. Co., freight on castings	$1 26
Dec.	1.	J. A. Sanderson, freight on castings	3 00
	2.	George Draper, blacksmithing	48 06
	3.	Hollinger Bros., blacksmithing	40
	3.	Joseph Proctor, stone and burying horse	3 25
	3.	M. Chadwick, team labor	3 50
	4.	C. H. Herrig, snubbing posts	10 50
	6.	C. & A. G. Stephens, hemlock	7 80
	11.	Louis Felts, blacksmithing	3 60
	11.	W. A. Evarts, coal and wood	5 60
	11.	F. L. Faass, oil, rope, etc	13 58
	11.	Comstock Bros., oil, rope, etc	12 75
	11.	Head & Winston, spike	7 65
	11.	W. U. Telegh. Co., telegraphing	7 89
	17.	S. H. Furnham & Co., hardware	4 95
	17.	M. Murphy and others, pay-roll	52 55
	18.	J. D. Corcoran, stone	15 00
	18.	Jacobs & Campbell, rope	4 20
	18.	H. O. Tooker, filing saws	1 95
	18.	Dolan & Gibler, stove pipe for scow	1 55
	18.	J. G. Bissell & Co., oil	3 02
	18.	S. Adams & Son, blacksmithing	15 76
	18.	W. B. Williams & Son, lumber	16 31
	18.	Telephone Co., telephone charges	2 25
	19.	B. T. Babbitt, repairs, ice breaker	6 95
	19.	I. H. Fredericks, repairs, ice breaker	3 15
	19.	A. H. Clark, scythe, etc	2 45
	19.	J. H. Rice blacksmithing	3 25
	27.	M. Doran, repairs scow	210 64
	29.	Sayre & Radell, hardware	11 13
1885.			
Feb.	4.	Thomas Gaff and others, pay-roll	116 85
	4.	N. A. White & Son, pipe	90
	5.	O. W. Sage, repairing sash	75
March	4.	Wm. Thompson, mason	3 75
	7.	R. M. Edwards, watchman	10 00
	7.	Wardwell Bros. & Co., hardware	11 70
	7.	L. B. Sherman, repairs, scow	9 35
	8.	James Kapfer, carpenter	9 00
	8	Robert Hart, carpenter	4 00
	9.	N. Kapfer, carpenter	4 00
	11.	E. Collin & Co., lumber	100 04
	11.	G. H. McChesney, facing	11 55
May	13.	Asa Sherman and others, pay-roll	135 75
	13.	Asa Sherman and others, pay-roll	20 25
	13.	Ed. Farr, hardware	2 98
	14.	G. W. Ingalls & Co., rubber boots	8 00
	8.	Joseph Kapfer and others, pay-roll	181 00

1885.			
May	13.	G. Graham and others, pay-roll	$82 50
	14.	Telephone Co., telephone	2 20
	16.	W. U. Tel. Co., telegrams	3 94
	19.	J. A. Roebling, Sons & Co., wire rope	5 84
	19.	Wright, Dana & Co., hardware	4 22
	19.	C. C. Kellogg, lumber	9 10
	21.	Hugo Kellar, cement	2 70
	21.	M. Doran, blacksmithing	15 32
	21.	W. B. Williams & Son, lumber	230 57
	21.	A. H. Clark, hardware	4 25
	21.	Sweet & Co., hardware	81
	21.	William Geron, filing saws	2 80
	21.	P. Dunn, blacksmithing	5 65
	21.	J. K. Rice, blacksmithing	3 15
	22.	Head & Winston, cement	21 50
	22.	Sayre & Randall, hardware	15 29
	22.	Louis Felts, blacksmithing	12 60
	22.	C. Sautterer, rubber boots	8 00
	22.	G. V. Selden, lumber	196 20
	22.	S. Adams & Son, blacksmithing	44 77
	22.	Jos. Higgins, blacksmithing	13 44
	22.	Wardwell Bro. & Co., hardware	28 70
	22.	J. G. Bissell & Co., oil, etc	10 82
	22.	George Dinehart and others, pay-roll	133 98
	25.	Thomas Hatch, wheel barrows and repairs.	19 80
	28.	P. Martin, livery	12 00
	28.	E. Comstock, lumber	93 57
	28.	Jos. Kapfer, freight on lumber	12 00
	28.	George Draper, blacksmithing	12 48
June	5.	M. Murphy and others, pay-roll	111 50
	3.	Asa Sherman and others, pay-roll	175 40
	6.	Jos. Kapfer and others, pay-roll	206 80
	8.	Jos. Kapfer, freight	9 36
	11.	W. U. Tel. Co., telegrams	3 44
	12.	E. Cullin & Co., lumber	103 64
	12.	Hurlburt & Stebbins, lumber	38 79
	13.	T. Kassing, blacksmithing	3 25
	13.	H. Allen, stone	2 75
	13.	Chesley & Kent, lime and sand	4 85
	13.	Benjamin Boyd, burying dead horse	2 00
	15.	J. R. Temple, blacksmithing	11 30
July	11.	Michael Moore, stone	21 00
	11.	E. Campbell, rope	4 31
	11.	A. D. Williams, manure	3 00
	11.	Owens, Day & Co., coal	8 50
	11.	C. Weismantal, pike poles	5 00
	11.	Jos. Kapfer, coal and freight	1 75

1885.			
July	11.	Fred. Taylor, blacksmithing....	$16 30
	11.	George Payne, filing saws, etc..........	3 60
	11.	H. O. Tooker, filing saws, etc...........	1 30
	11.	Wardwell Bros. & Co., hardware........	10 52
	11.	D. Maurer, hardware..................	6 78
	11.	S. S. T. Smith, shovels.................	3 60
	11.	J. Dely & Co., tinsmith work...........	1 92
	11.	E. Comstock, lumber....................	47 62
	13.	E. Collin & Co., lumber.................	204 54
	13.	J. Kapfer and others, pay-roll...........	339 50
	13.	Callahan & Doyle, clay.................	3 00
June	20.	W. E. Walter, use of telephone.........	75
	23.	Alexander Bradley & Dunning, bridge chairs..............	23 98
	25.	E. Collier & Co., maple plank..........	93 10
	29.	Hurlburt & Stebbins, lumber...........	36 80
	29.	Orleans Felts, blacksmithing............	4 25
	29.	M. Doran, lumber.....................	2 26
	29.	M. Doran, lumber.....................	21 06
	29.	M. Murphy and others, pay-roll.........	222 50
July	3.	George Draper, blacksmithing...........	32 65
	10.	A. Sherman and others, pay-roll.........	173 75
	10.	W. A. Maxson, burying horse...........	2 00
	10.	P. F. Curtis, bridge repairs.............	21 47
	10.	D. F. Mayer, bridge repairs.............	14 85
	10.	Bemiss & Co., hardware................	6 20
	10.	Head & Winston, hardware.............	26 70
	10.	Hurlburt & Stebbins, lumber............	93 76
	10.	C. C. Kellogg, lumber..................	37 55
	10.	E. F. Downer, lumber...	97 84
	16.	Davis & Weaver, cement and lumber....	41 50
	28.	E. Comstock, lumber..................	12 74
	28.	G. V. Selden, lumber..................	43 46
Aug.	4.	Jos. Kapfer and others, pay roll, repairs culvert Oriskany, etc.................	296 45
	4.	Geo. Parker, stone....................	26 75
	5.	Hugh McCosker, labor, cleaning feeder, etc....................	9 00
	5.	Wardwell Bros. & Co., hardware........	4 61
	5.	L. P. Sherman, repairs, scow............	13 34
	5.	D. G. Evans & Co., lumber............	146 08
	5.	John Daley and others, pay-roll, tow path.	135 20
	5.	M. Murphy and others, pay-roll, tow path,	385 25
	6.	M. C. Walrath and others, pay-roll, tow path..........................	490 00
	6.	Chas. Graham, paid bridge tender.......	9 00
	6.	W. S. Potter, stone....................	1 00
	6.	M. Doran, use of scraper...............	15 00

1885.			
Aug.	6.	Whitestown Telephone, use of telephone..	$4 70
	6.	W. U. Tel. Co., telegraphing...........	50
	6.	W. B. Williams & Son, lumber..........	25 10
	6.	C. C. Kellogg, lumber.................	49 22
	6.	E. J. Downer, lumber..................	77 27
	6.	Hurlburt & Stebbins, lumber...........	42 83
	6.	Crane. Belden & Co., lumber...........	618 66
	6.	S. H. Farnam & Co., hardware..........	3 85
	6.	Bermiss & Co., hardware...............	10 84
	6.	Wright, Dana & Co , grindstone.........	4 00
	6.	Thomas Foster & Son, hardware........	16 45
	6.	Holligan Bros , blacksmithing...........	85
	6.	Jos. Higgins, blacksmithing............	10 99
	6.	J. W. Bates, blacksmithing.............	2 00
	1.	Wm. Wilsey, clay......................	12 00
	10.	Davis & Weaver, cartage...............	4 40
	14.	N. J. Steel and Iron Co., bridge beams...	173 25
	17.	Jos. Kapfer and others, pay-roll.........	145 50
	17.	M. Murphy and others, pay-roll.........	630 00
Sept.	3.	Jos. Kapfer, sand, etc..................	4 53
	3.	E. Doran, use of scraper................	44 00
	3.	Carl Siebel, tow line..................	4 35
	5.	W. U. Tel. Co., telegraphing..........	78
	5.	F. L. Fass, oil, etc....................	10 95
	5.	Head & Winston, nails..................	6 50
	5.	Louis Felts, blacksmithing	8 69
	5.	J. H. Fredericks, blacksmithing.........	12 98
	5.	P. T. Curtis, blacksmithing.............	5 55
	7.	E. F. Downer, lumber..................	189 65
	7.	Jos. Kapfer and others, pay-roll.........	61 80
	8.	E. Wilber, stone......................	6 00
	3.	M. C. Waldrath and others, pay-roll.....	490 00
	9.	Saym & Rodell, hardware..............	35 49
	11.	Alexander, Bradley & Dunning, bridge irons..............................	49 43
	28.	J. Ackroyd and others, pay-roll..........	109 70
	29.	E. Campbell, rope.....................	5 60
	29.	E. Campbell, water lime...............	8 25
	29.	E. Campbell, storage..................	30 00
	29.	Wardwell Bros. & Co., hardware........	6 83
	29.	J. G. Bissell & Co., oil, etc............	11 08
	29.	E. Comstock, lumber..................	32 00
	29.	W. B. Williams & Son, bridge plank....	351 12
	29.	W. B. Williams & Son, lumber.........	25 37
	30.	W. B. Williams & Son, lumber.........	220 00
	30.	S. P. Steves, hardware.................	3 87
Oct.	1.	Jos. Kapfer, sand, etc..................	4 00

1885.			
Oct.	1.	Bemiss & Co., paint	$7 90
	1.	L. Adams & Co., blacksmithing	19 72
	1.	Jos. Kapfer and others, pay-roll	98 75
	1.	M. Murphy and others, pay-roll	448 27
	1.	M. C. Walrath and others, pay-roll	490 00
	2.	Crane Belden & Co., lumber	250 26
Sep.	30.	M. E. Williams, burying dead horse	2 00
Oct.	2.	Marcellus & Hill, lumber	6 97
	2.	H. Rouspees, blacksmithing	1 00
	2.	S. H. Farnam & Co., nails, etc	4 25
	5.	Geo. Schwab, manure	2 00
	17.	H. Graves, manure and hay	3 50
			$12,546 92

MIDDLE DIVISION.

Section No. 6.

1884.			
Nov.	1.	William Jolly, tending Chittenango feeder, October	$10 00
	1.	J. L. Walter, tending Butternut feeder, October	10 00
	1.	Patrick Gaynor, tending Limestone feeder, October	10 00
	5.	W. Hedglin, tending Otisco Reservation feeder, October	10 00
	4.	C. G. Gibbs, tending Cazenovia feeder, October	25 00
	1.	L. Patrick, tending Jamesville feeder, October	5 00
	3.	Geo. Dinehart, repairs, DeRuyter reservoir	25 80
	5.	Crane, Belden & Co., pine	78 75
	7.	D. L. & W. R. R. Co., coal	8 30
	6.	M. C. Walrath and others, pay-roll, scow "Gov. Seymour"	490 00
	1.	Wm. McCann and others, pay-roll, scow "Syracuse"	477 04
	7.	Joseph Lacy, repairing pump	1 00
	7.	George Draper, blacksmithing	59 59
	1.	John Dwyer, tending Camillus feeder, October	10 00
	6.	H. L. Gay, stove pipe for scow	75
	8.	H. L. Griffin, repairs Erieville reservoir	78 00
	14.	Mack, Dunn & Co., rope, etc	68 72
	20.	Chas. Paddock, burying dead horse	2 00

1884.			
Nov.	24.	W. Johnson, oak	$162 81
	29.	Wm. McCann and others, pay-roll, scow "Syracuse," November	460 60
	29.	W. C. Walrath and others, pay-roll, scow "Gov. Seymour," November	464 80
	29.	W. C. Walrath, sundries, scow "Gov. Seymour"	3 16
Dec.	1.	John L. Walter, tending Butternut feeder, November	10 00
	2.	L. Patrick, tending Jamesville reservoir, November	5 00
	2.	Holden & Son, coal	6 80
	2.	Geo. Draper, blacksmithing	11 84
	3.	John Dwyer, tending Camillus feeder, November	10 00
	5.	George Dinehart, repairs, DeRuyter reservoir	20 30
	6.	Patrick Gaynor, tending Limestone feeder, November	10 00
	6.	George Swan, manure	6 00
	9.	Coakley & Dunn, oil, etc	1 55
	10.	William Jolly, tending Chittenango feeder, November	10 00
	10.	W. Hedglin, tending Otisco reservoir, November	10 00
	15.	C. G. Gibbs, tending Cazenovia feeder, November	25 00
	16.	C. P. Robinson, repair, lock houses	3 15
	20.	Grant & Dunn, rope for scows	23 10
	26.	C. H. Maxon, tending reservoir, October and November	30 00
	26.	C. H. Maxon, repairs, reservoir	18 35
	31.	Frank Blanchard, stone for slope-wall	76 25
	31.	Mack, Dunn & Co., rope, etc	67 70
1885.			
Jan.	3.	Peter Riley, freight	8 08
	5.	C. G. Gibbs, tending Cazenovia reservoir, December	25 00
	6.	J. D. Never, livery	10 00
	7.	W. Hedglin, tending Otisco reservoir, December	10 00
	10.	Leander Patrick, tending Jamesville reservoir, December	5 00
	21.	Gorton & Taylor, deck for scow	53
	13.	C. H. Maxon, tending reservoir	15 00
	31.	W. Hedglin, tending reservoir	10 00
	31.	Crane, Belden & Co., lumber	11 68
Feb.	2.	Geo. Draper, bolts	27 57

1885.

Feb.	2.	Mack, Dunn & Co., hardware	$13 38
	6.	C. H. Maxson, tending reservoir	15 00
	7.	L. Patrick, tending reservoir	5 00
	9.	C. G. Gibbs, tending reservoir	25 00
	10.	S. O. & N. Y. R. R., freight	2 50
	11.	E. S. Mather, team labor	4 00
	21.	A. J. Bowman, common labor	1 50
March	3.	Mack, Dunn & Co., hardware	8 38
	4.	L. Patrick, tending reservoir	5 00
	5.	C. G. Gibbs, tending reservoir	25 00
	5.	W. Hedglin, tending reservoir	10 00
	30.	Wm. Belden, common labor	1 50
	12.	C. H. Maxson, tending reservoir	15 00
	31.	C. G. Gibbs, tending reservoir	25 00
April	1.	C. H. Maxson, tending reservoir	15 00
	1.	L. Patrick, tending reservoir	5 00
	2.	W. Hedglin, tending reservoir	10 00
	2.	Walter Stein, common labor	2 25
	3.	Geo. Draper, blacksmithing	10 05
	4.	Mack, Dunn & Co., hardware	10 07
	4.	P. Hefferman and others, pay-roll	54 45
	11.	E. Collin & Co., maple plank	121 92
	14.	John Tiffany, unloading lumber	2 00
	16.	Philo Bromley, manure	2 00
May	2.	L. Patrick, tending Jamesville reservoir, April	5 00
	2.	Willard Johnson, oak lumber	91 20
	2.	C. G. Gibbs, tending Cazenovia and Erieville reservoir, April	25 00
	2.	William Woods, cedar posts	1 20
	2.	W. Hedglin, tending Otisco reservoir, April	10 00
	4.	C. H. Maxson, tending DeRuyter reservoir, April	15 00
	5.	George Draper, blacksmithing	13 37
	5.	Mack, Dunn & Co., hardware	15 30
	8.	P. Donley, sand	2 75
	13.	A. Sherman and others, pay-roll, repairs	366 50
	13.	A. Sherman and others, pay-roll, repairs	231 00
	13.	George H. Ballou, clay	3 25
	13.	William Foley, pump suckers	1 00
	13.	J. H. McMahon, pump suckers	75
	13.	Chesley & Kent, lime, etc	11 95
	13.	J. M. Parker, machine labor	4 00
	13.	Hulburt & Stebbins, lumber, etc	39 01
	13.	A. T. Van, mauls	1 50
	13.	Theo. Kassing, blacksmithing	10 35
	13.	Edward Farr, hardware	9 30

1885.			
May	13.	Bemiss & Co., hardware	$20 68
	14.	H. Allen, stove	26 90
	14.	A. B. Stroud & Bros., sand	8 25
	14.	Ira Procter, manure	1 00
	23.	Joseph Sweet, labor on bridge, Canastota.	1 50
	23.	Philo Bromley, livery	3 00
	26.	F. Wolson, plastering lock house, lock 50.	3 00
	26.	George Lower, watchman	9 00
	30.	W. Stein, watchman	18 00
June	2.	William McCann and others, pay-roll scow "Syracuse," May	324 14
	2.	E. Jordan, towing scow	5 00
	2.	Jno. Dwyer, tending Camillus feeder, May.	8 06
	2.	L. Patrick, tending Jamesville reservoir, May	5 00
	3.	C. G. Gibbs, tending Cazenovia and Ellenville reservoir, May	25 00
	3.	C. H. Maxon, tending DeRuyter reservoir, May	15 00
	3.	W. Hedglin, tending Otisco lake reservoir, May	10 00
	3.	George Hookaway, drawing in boats, lock 50	100 00
	3.	Lyon, Mann & Hunter, lumber	55 08
	3.	Joseph Lacy, lamp	9 00
	5.	George Draper, blacksmithing	80 15
	5.	M. C. Walrath and others, pay-roll, scow "Gov. Seymour"	306 15
	10.	Crane, Baldwin & Co., lumber	42 44
	10.	Mack, Dunn & Co., rope, etc.	304 71
	15.	T. Owens and others, pay-roll	124 20
	30.	M. C. Walrath and others, pay roll scow, "Gov. Seymour," June	490 00
July	1.	C. H. Maxson, tending reservoir, June	15 00
	2.	C. G. Gibbs, tending reservoir, June	25 00
	3.	L. Patrick, tending reservoir, June	5 00
	3.	W. Hedglin, tending reservoir, June	10 00
	3.	P. Gaynor, tending reservoir, June	20 00
	3.	George Hookaway, team labor	30 00
	3.	George Draper, blacksmithing	48 94
	3.	Mack, Dunn & Co., hardware	88 74
	3.	M. Britton & Son, lime	3 25
	3.	Wm. McCann and others, pay-roll, scow, "Syracuse," June	475 19
	3.	Peck & Clark, repairs, swing bridge	56 08
	8.	Jno. Dwyer, tending Camillus feeder, June.	10 00
May	21.	J. E. Craver, blacksmithing	11 54
June	6.	J. E. Craver, blacksmithing	1 41

1885.			
June	10.	Mack, Dunn & Co., hardware..........	$22 52
	13.	Peter Varmit, hook.....................	80
	13.	Rose & Barrett, lumber................	59 56
	18.	C. H. Breer, grease.....................	13 18
	19.	S. D. Satterly, livery.....................	8 50
	19.	M. J. Cortwright and others, pay-roll....	173 75
	23.	Alexander Bradley & Dunning, castings..	48 65
	25.	Bangs & Gaynor, cement................	12 75
	25.	Bangs & Gaynor, cement................	360 00
July	10.	Philo. Bromley, manure.................	1 00
Aug.	1.	Hamsen & Hatch, lamp repairs..........	1 80
	3.	R. Rosenbloom & Sons, rubber boots....	5 50
	3.	Adam Filsenger, bridge iron............	162 67
	3.	Jno. Dwyre, tending Camillus feeder, July,	10 00
	3.	C. G. Gibbs, tending Cazenovia reservoir, July	25 00
	3.	C. H. Maxson, tending DeRuyter reservoir, July................................	15 00
	3.	W. Hedglin, tending Otisco reservoir, July,	10 00
	4.	L. Patrick, tending Jamesville, reservoir, July	5 00
	4.	A. D. Perry & Co., plow points........	80
	5.	Wm. McCann and others, pay-roll, July..	486 11
	6.	Mack, Dunn & Co., hardware...........	59 60
	6.	Crane, Belden & Co., lumber...........	35 74
	6.	S. O. & N. Y. R. R., freight...........	14 00
	11.	Crane, Belden & Co., lumber...........	618 66
	12.	George Draper, blacksmithing..........	16 75
	12.	W. U. Tel. Co., telegraphing...........	25
	24.	E. S. Mather, team work................	54 00
	29.	John Colyer, expense account...........	23 06
	31.	W. Hedglin, tending Otisco reservoir, August	10 00
	31.	C. G. Gibbs, tending Cazenovia and Erie reservoir, August	25 00
Sep.	1.	P. Gaynor, tending Limestone feeder, July and August........................	20 00
	1.	Jno. Dwyer, tending Camillus feeder....	10 00
	1.	Coville & Chase, repairs scow "Syracuse".	35 39
	1.	Wm. McCann and others, pay-roll, scow "Syracuse"........................	481 92
	1.	Mack, Dunn & Co., lock lines, etc.......	298 52
	5.	George Draper, blacksmithing..........	39 55
	8.	C. P. Robinson, tinsmith................	4 58
	11.	Alexander Bradley & Co. bridge repairs.	164 45
	10.	C. H. Maxson, tending reservoir, August.	15 00
	9.	Jno. Bates, lumber......................	2 08

1885.			
Sep.	9.	B. F. Hosly, manure..................	$1 75
	12.	L. Patrick, tending Jamesville reservoir, August.........................	5 00
	30.	George Draper, blacksmithing..........	25 97
	30.	Mack, Dunn & Co., hardware...........	24 39
	30.	Wm. McCann and others, pay-roll, scow "Syracuse".......................	473 85
	30.	C. G. Gibbs, tending Cazenovia and Erie reservoir, September.................	25 00
Oct.	1.	Jno. Dwyre, tending Camillus feeder, September................................	10 00
	1.	Charles Chase and others, pay-roll.......	191 00
	1.	Leret & Blaisdell, sawing...............	1 50
	1.	W. Hedglin, tending Otisco reservoir....	10 00
	2.	G. H. McChesney, lumber..............	1,368 88
	2.	G. H. McChesney, lumber..............	6 50
	2.	Crane, Belden & Co., lumber...........	2 42
	2.	Joseph Lacy, boat pump...............	3 50
	3.	W. Johnson, oak......................	209 95
	2.	C. H. Maxson, tending De Ruyter reservoir, September....................	15 00
	5.	L. Patrick. tending Jamesville reservoir, September........................	5 00
			$12,701 71

Section No. 7.

1884.			
Oct.	4.	Jno. Welch, burying dead horse.........	$10 00
Nov.	5.	George Draper, blacksmithing..........	17 11
	12.	A. L. Sherwood and others, pay-roll.....	422 10
	12.	Bench & Shear, hardware...............	4 57
	12.	Jno. Humphrey, agent, blacksmithing....	4 00
	13.	Hess & Young, blacksmithing..........	3 45
	13.	E. W. Gilbert, blacksmithing...........	4 40
	13.	W. B. Hoff, oil, etc..................	4 65
	13.	Jno. T. Smith, oil, etc.............. ...	1 70
	13.	D. M. Kellogg, team labor..............	19 00
	13.	J. E. Gutchess, use of scraper	7 50
	13.	J. H. Eldridge, freight and telegrams....	4 91
	13.	Mack, Dunn & Co., hardware........ ..	83 40
	14.	Edward Reese, ditching................	18 00
	14.	Kelly Bros. & Co., rope and hardware....	8 04
	14.	Jno. Fitzgerald, blacksmithing..........	7 20
	14.	Henry Oliver, painting bridges..........	14 00
	14.	Jno. Welch, burying dead horse.........	12 00
	14.	J. W. Pulver, sand....................	2 25
	14.	Jno. Barry, stone......................	10 00

1884.			
Nov.	14.	Streeter & Mitchell, cement	$4 50
	14.	S. J. Mack & Co., lumber	21 41
	14.	Harmon & Mack, hardware	43 85
	14.	W. C. Freeman, team labor	10 50
	14.	W. D. Hees and others, pay-roll	490 00
	15.	Jno. H. Post, burying dead horse	13 50
Dec.	1.	A. Filsinger, bolts	26 85
	2.	Rosenbloom & Sons, rubber boots	19 00
	11.	A. L. Sherwood and others, pay roll	383 37
	11.	M. J. Bradley, labor	24 00
	11.	Jno. M. Purcell, pails	1 80
	11.	Bench & Shear, nails	5 53
	11.	Wm. R. Willets & Co., coal	15 88
	11.	Van Ness & Wheeler, pine	12 12
	11.	Allen & Hall, lumber	53 61
	11.	Skan. R. R. Co., freight	15 13
	11.	H. S. Polly, agent, blacksmithing	5 00
	11.	J. Humphrey, agent, blacksmithing	8 99
	13.	Tanner & Shelter, repairs, scow, etc	10 42
	13.	E. W. Gilbert, blacksmithing	1 75
	13.	J. T. Smith, glass	1 25
	13.	Letts & Warren, coal	2 68
	13.	D. W. Kellogg, team labor	4 50
	15.	Harmon & Mack, hardware	24 64
	15.	E. W. Ward, filing saws	1 50
	15.	J. J. Tanner, sawing, etc	1 75
	16.	J. H. Eldridge, telegraphing and freight	1 94
	16.	E. G. Olmstead, plank	3 67
	16.	G. W. Harrington, burying dead horse	2 00
	16.	John Welch, burying dead horse	14 00
	16.	J. H. Post, burying dead horse	15 00
	16.	W. D. Hees and others, pay-roll, scow "Rome"	484 40
1885.			
Jan.	6.	Geo. S. Cady, lumber	23 16
	9.	J. H. Eldridge, freight, etc	6 30
	10.	Geo. Newkirk, sand	5 00
	15.	A. L. Sherwood and others, pay-roll	288 20
	15.	A. L. Sherwood and others, pay-roll	103 72
	15.	R. English, repairs, rubber boots	1 50
	15.	Jos. Scott, clay and gravel	36 40
	15.	Mrs. J. Sherwood, stone	22 50
	15.	Bench & Shear, lime, etc	15 12
	15.	J. Humphreys, agent, blacksmithing	16 64
	15.	H. S. Polly, blacksmithing	3 05
	15.	Allen & Hall, lumber	11 32
	15.	W. S. Hoag & Son, lumber	4 31
	15.	P. C. Corrigan & Co., lime	7 35

1885.			
Mch.	17.	W. C. Freeman, team labor.............	$28 00
	17.	J. T. Smith, salt........................	1 25
	18.	J. H. Eldridge, telegraphing............	1 75
	24.	N. Y., W. S. & B. R. R., freight........	20 40
April	3.	Geo. Draper, blacksmithing.............	58 02
	4.	Mack, Dunn & Co., hardware	8 10
	4.	G. H. McChesney, sawing	7 68
	7.	Geo. Dinehart, rebuilding Mays Point bridge	170 00
May	7.	W. C. Rodger & Co., lumber	31 11
	7.	S. J. Mack & Co., lumber...............	27 01
	7.	S. E. Mason & Son, hardware	2 36
	7.	L. L. Parker, blacksmithing	14 15
	7.	Geo. Dinehart and others, pay-roll.......	137 70
	7.	O. W. Seymour and others, pay-roll	25 25
	7.	C. P. Ladue and others, pay-roll	29 45
	7.	J. T. Smith, salt..	1 25
	7.	Jno. Fitzgerald, blacksmithing..........	3 10
	7.	L. J. Mack & Co., lumber..............	6 66
	7.	H. Gifford and others, pay-roll..........	81 50
	7.	Indian Wheelbarrow Co., canal barrows..	5 30
	7.	J. H. Eldridge, freight and telegrams....	76
		R. B. Foster and others, pay-roll bottoming canal..........................	456 20
		Wm. Jones and others, pay-roll, bottoming canal........................	646 95
		H. Prosser and others, pay-roll, bottoming canal........................	244 70
		E. Radford and others, pay-roll, bottoming canal........................	56 30
		Chas. Heelmer and others, pay-roll, bottoming canal........................	171 25
		O. W. Seymour and others, pay-roll, bottoming canal......................	187 03
		A. Mitchel and others, pay-roll, bottoming canal.........................	89 25
		W. D. Hees and others, pay-roll, bottoming canal	230 55
		H. Gifford and others, pay-roll, sundry repairs...........................	163 15
		Geo. Dinehart and others, pay-roll, aqueduct repairs....................	240 45
		J. H. Eldridge and others, pay-roll pointing abutments	90 75
	19.	Wm. Sheenan, common labor...........	17 50
	18.	E. Lees, common labor.................	1 50
	31.	W. Wilson, common labor.............	4 50

1885.

May	14.	Peck & Tyle, blacksmithing	$13 34
	15.	Harmon & Mack, hardware	21 90
	15.	S. J. Mack & Co., lumber	18 02
	15.	A. H. odd.M kerosene oil	4 68
	15.	Streeter & Mitchell, cement	12 20
	15.	J. H. Eldridge, freight and telegrams	7 38
	15.	James Tobin, gravel	2 00
	21.	C. N. Hardy, lumber and clay	13 02
	21.	J. T. Peck, lime and sand	7 00
	23.	J. W. Legg, filing saws	2 70
	23.	J. J. Tanner, lumber and sawing	5 55
	22.	W. B. Hoff, paint	5 60
	22.	Burrett & Fenn, hardware	5 94
	7.	M. Guilfoyle, teaming, etc	20 75
June	11.	E. G. Olmstead, lumber	18 37
	12.	Chas. Helmer and others, pay roll	21 00
	12.	Wm. Jones and others, pay-roll	266 50
	12.	Lock tenders, pay-roll	366 37
	13.	M. J. Bradley, tending reservoir	10 00
May	30.	George Dinehart, freight	3 51
June	2.	J. H. Eldridge, freight and telegrams	3 73
	4.	W. D. Hees and others, pay-roll, scow “Rome”	257 11
	4.	W. C. Rodger & Co., lumber	3 63
	5.	George Draper, blacksmithing	38 90
	8.	M. J. Bradley, carpenter labor	7 71
	10.	Mack, Dunn & Co., rope	151 95
	12.	E. W. Gilbert, blacksmithing	60 00
	12.	John Fitzgerald, blacksmithing	21 60
	12.	Burritt & Fenn, hardware and oil	4 94
	12.	Tanner & Shelter, blacksmithing	48 49
	12.	Kelly, Ross & Co., hardware	22 32
	12.	J. T. Smith, oil	1 80
	23.	Alexander Bradley & Dunning, gears, etc.	12 95
July	3.	M. J. Bradley, tending reservoir	10 00
	3.	A. D. Perry & Co., plow	9 40
	3.	Pinckney & Sawyer, blacksmithing	5 00
	3.	J. P. Harrington, blacksmithing	75
	3.	J. P. Harrington, blacksmithing	1 78
	3.	Mack, Dunn & Co , nails	20 06
	3.	W. D. Hees and others, pay-roll, scow “Rome”	472 50
	9.	William Jones and others, pay-roll	380 95
	9.	Sundry tenders of locks, pay-roll	405 00
	9.	Harmon & Mack, hardware	4 14
	9.	Burritt & Fenn, oil	2 25
	9.	W. Coyle, rope	3 71
	9.	Tanner & Shelter, blacksmithing	8 60

1885			
July	9.	C. W. Warner, lumber	$2 46
	9.	L. J. Mack & Co., lumber	100 35
	9.	F. Guilford, diving	2 00
	9.	J. H. Eldridge, freight, etc.	1 36
	9.	R. Niles, team and gravel	2 55
	9.	J. F. Delaney, burying horse	1 50
	9.	John G. Kick, drawing lumber	3 50
Aug.	3.	M. J. Bradley, tending reservoir	10 00
	6.	Mack, Dunn & Co., paint and hardware	14 75
	7.	John H. Post, burying dead horse	24 00
	7.	J. G. Peck, sands	3 00
	7.	John G. Kick, use of wagon	2 00
	7.	John Fitzgerald, blacksmithing	18 90
	7.	J. H. Eldridge, telegrams	81
	7.	Streeter & Mitchell, cement	3 60
	7.	Rockwell & Co., manure	50
	7.	Harmon & Mack, hardware	5 05
	7.	Burritt & Fenn, hardware	3 20
	7.	S. J. Mack & Co., lumber	118 40
	7.	W. D. Hees and others, pay-roll, scow "Rome"	487 41
	7.	J. H. Eldridge, pay-roll	123 05
	7.	J. H. Eldridge, pay-roll, lock tender, etc.	375 00
	7.	William Jones and others, pay-roll, general repairs	378 50
July	8.	John Welch, burying dead horse	4 00
Aug.	8.	John Welch, burying dead horse	8 00
	29.	Crane, Belden & Co., lumber	653 40
Sep.	1.	M. J. Bradley, tending reservoir	10 00
	1.	Am. Ex. Co., transportation	1 00
	2.	John H. Post, burying dead horse	13 50
	2.	J. H. Eldridge, freight paid	4 98
	2.	J. W. Legg, filing saws	2 20
	2.	F. W. Deez, use of wagon	2 00
	2.	S. J. Mack & Co., lumber	23 65
	2.	W. S. Smith, oil	14 18
	2.	Burritt & Fenn, hardware	12 82
	2.	J. J. Tanner, pike polls and ladder	2 75
	2.	Hert & Young, blacksmithing	5 10
	2.	Tanner & Shelter, blacksmithing	5 40
	2.	W. D. Hees and others, pay-roll, scow "Rome"	490 00
	2.	Lyman Little and others, pay-roll, repairs.	204 85
	2.	Sundry lock tenders, pay-roll, repairs	375 00
	2.	William Jones and others, pay-roll, repairs.	385 00
	3.	John G. Kick, team scraping tow path	10 50
	3.	R. Warren, cement and shingles	7 39
	3.	J. F. Delany, burying dead horses	3 00

1885.			
Sep.	5.	Mack, Dunn & Co., paint and lock lines	$154 33
	4.	John Welch, burying dead horses	10 00
Sep.	30.	Mack, Dunn & Co., oil	32 43
Oct.	2.	M. J. Bradley, tending reservoir	10 00
	6.	T. P. Harrington, blacksmithing	3 50
	6.	Peck & Tyler, repairs Jordan bridge	9 68
	6.	L. R. Bush, burying dead horse	3 00
	7.	J. H. Eldridge, pay-roll, lock-tenders	375 00
	7.	Wm. Jones and others, pay-roll, repairs	385 00
	7.	Lyman, Little and others, pay-roll, repairs	268 10
	7.	W. D. Hees and others, repairs, scow "Rome"	490 00
	7.	J. H. Post, burying dead horses	13 50
	7.	John Fitzgerald, blacksmithing	3 45
	7.	Tanner & Shelter, blacksmithing	29 39
	7.	J. H. Eldridge, freight	2 87
	7.	Barritt & Fenn, hardware	19 71
	7.	Kelly, Ross & Co., hardware	1 50
	7.	R. Warren, lumber and lime	11 23
	7.	W. S. Smith, sand, etc	7 40
	7.	Crane, Belden & Co., lumber	625 91
Dec.	27.	Crane, Belden & Co., lumber	991 25
			$16,341 18

Summary.

Middle division account	$4,220 91	
Section No. 5	12,546 92	
Section No. 6	12,701 71	
Section No. 7	16,341 18	
		$45,810 72

Western division.

1885.			
July	27.	Alden & Lassig, iron bridge at Gasport	$2,225 00
1884.			
Nov.	8.	O. H. Gorton, furniture scow "Dewitt Clinton"	219 17
	11.	H. A. Kingsley & Co., hardware	35 75
	11.	H. A. Kingsley & Co., hardware	29 66
	8.	O. H. Gorton, furniture "Rochester"	219 17
	1.	J. J. McIntyre, patrolman	30 00
Sep.	30.	J. J. McIntyre, patrolman	30 00
Nov.	11.	H. W. Smith, calking scows	56 05
	11.	Thomas Duffy, chief patrolman	100 00
	11.	Thomas Duffy, chief patrolman	100 00
	11.	Martin Middaugh, blacksmithing	13 80
	11.	J. C. Copeland, Portland cement	14 80

1884.			
Dec.	1.	J. J. McIntyre, patrolman	$30 00
	1.	A. Roberts, wheel-man on pump boat	3 60
Oct.	1.	E. Williams, repairs	16 00
Dec.	1.	H. F. Cady, damage to boat	6 40
Nov.	17.	M. F. Baldwin, sand	2 00
	17.	L. E. Lacy, hardware	2 00
Dec.	6.	George Eaton, pay-roll	108 40
	6.	George Eaton, pay-roll	123 75
1883.			
Jan.	4.	S. M. Pooley, extra foreman, labor	72 00
	4.	S. M. Pooley, extra foreman, labor	28 00
1884.			
Jan.	15.	W. N. Radenhurst, clerk service	20 00
Feb.	8.	H. L. Fish, Jr., clerk, service	13 33
	18.	H. C. Wisner, cuspadores	6 00
1885.			
Jan.	13.	R. Barrett & Son, repairs, scow	20 93
	13.	W. Heavy, livery	6 00
	13.	Charles Dana, painting scows	25 00
1884.			
Nov.	13.	John Donahue, towing	10 89
	13.	Alex. Wilds, wages as pilot	20 00
Dec.	26.	Robert Browne, labor on scow	13 50
1885.			
Jan.	21.	Thomas Duffy, patrolman, etc.	100 00
	5.	John Daw and others, pay-roll	144 70
1884.			
Dec.	31.	D. C. Welch, lumber	929 76
1885.			
Jan.	15.	W. U. Tel. Co., telegrams	3 60
	21.	B. & O. Tel. Co., telegrams	1 42
	31.	Charles Dana, watchman	25 00
	31.	M. Dougherty, expenses on pump boat	8 85
	30.	George Eaton, care Cuba reservoir, 1884	89 94
Feb.	3.	M. Riler, boiler repairs	4 00
	3.	Buffalo Lub. Oil Co., oil	49 35
	3.	McBean & Co., machinist work	31 10
	3.	John Daw and others, pay-roll	344 54
	3.	Bean, F. & Co., repairs dredge	12 75
	3.	D. Provost, Son & Co., awning for pump boat	6 50
	3.	Bean, F. & Co., repairs steamer Buffalo	3 11
	3.	H. H. Baker & Co., rope, etc.	61 43
	7.	John M. Juster, inspector trunk sewer	648 00
1884.			
Nov.	13.	Joseph Day, use of yacht	60 00
1885.			
April	11.	F. O'Connor, expenses	6 00

1885.			
June	1.	J. J. McIntyre, patrolman	$32 23
	13.	M. W. Carr, towing scow	7 00
	24.	Thomas Duffy, patrolman	72 65
	30.	J. J. McIntyre, patrolman	30 00
July	17.	Thomas Duffy, patrolman	100 00
June	30.	James Beattie, work at leak	2 25
	30.	James Kerry, work at leak	2 70
Aug.	1.	J. J. McIntyre, patrolman	30 00
	5.	Thomas Duffy, patrolman	100 00
	7.	F. O'Conner, expense	1 40
	6.	S. J. Cutler, lumber	1 69
	11.	George Eaton and others, repairs, bulkhead	42 25
	6.	John Armstrong, sand, bulk head	2 00
Sept.	5.	Thomas Duffy, salary and horse hire	100 00
Aug.	31.	J. J. McIntyre, patrolman	30 00
Sept.	17.	H. A. Kingsley & Co., hardware	9 67
	2.	Anthony Bissell, removing sunken boat	1 50
	17.	H. A. Kingsley & Co., hardware	2 53
Oct.	3.	Thomas Duffy, patrolman	100 00
Sept.	30.	J. J. McIntyre, patrolman	30 00
Oct.	1.	F. O'Conner, expense account	5 82
			$6, 834 94

Section No. 8.

1884.			
Sept.	24.	Palmyra hotel, board	$2 00
1885.			
Jan.	3.	J. G. Bronson & Co., lumber	23 92
	3.	John Jefferey & Bro., blacksmithing	21 20
	3.	C. H. & E. D. Bingham, hardware	61 99
	3.	Fred. Cleveland, bow line	2 85
	13.	Kingsley & Co., hardware	22 01
	10.	J. McCormack, blacksmithing	6 50
	10.	Packard & Co., hardware	1 35
	8.	W. H. Gilbert, blacksmithing	1 50
	8.	C. K. Hayes, telegrams	1 12
	8.	Hitchcock & Co., coal	3 23
	8.	George H. Price, repairs	8 90
	8.	George H. Price, repairs	15 11
	8.	A. M. Dillenbeck, rope	3 60
	8.	A. M. Dillenbeck, rope	7 56
	8.	Roche Bros., blacksmithing	5 50
	8.	F. F. Horton, paints	17 41
	14.	W. Johnson, lumber	1, 432 09
	30.	Alting & Deverick, blacksmithing	15 31
	30.	Alting & Deverick, blacksmithing	6 08

1885.

Jan.	30.	Alting & Deverick, blacksmithing.......	$2 35
	30.	William Kreutzer, paint, etc............	7 28
	30.	William Kreutzer, paint, etc............	178 75
	30.	W. U. Tel. Co., telegrams	3 51
	30.	W. U. Tel. Co., telegrams...............	1 51
	30.	W. U. Tel. Co., telegrams...............	1 10
	30.	W. U. Tel. Co., telegrams...............	5 15
	30.	R. Galusha, blacksmithing...............	4 00
	30.	Wood & Co., blacksmithing............	13 80
	30.	Morley & Smith, hardware.............	7 89
	30.	E. Lux, coal..........................	3 60
	30.	C. Rooker, tow line....................	5 65
	30.	E. D. Leonard, lumber.................	54 82
	30.	A. V. Holmes, coal....................	1 25
	31.	A. G. Yates, coal......................	54 63
	30.	R. Galusha, drift bolts.................	1 50
Feb.	10.	G. H. Price, repairs, scow..............	5 75
	2.	C. H. & E. D. Bingham, hardware......	14 89
	3.	W. A. Chapman, stone.................	53 50
	3.	W. U. Tel. Co., telegrams..............	3 13
Jan.	30.	H. T. Baker, blacksmithing..............	25 29
Feb.	4.	J. B. Johnson, tile....	10 00
	4.	M. Clous, timber........................	10 00
	5.	J. McCormick, blacksmithing...........	3 00
	3.	J. S. Crouse & Co., hardware...........	5 85
	3.	Henderson & Co., coal..................	10 40
	11.	Kingsley & Co., hardware...............	46 97
March	14.	D. V. Teller, freight.....................	2 93
April	6.	D. V. Teller, freight.....................	8 23
	6.	D. M. Teller, clerk service...............	200 00
	11.	M. W. Dillenback, potash..	2 25
	11.	J. M. Gonigal, filing absts...............	2 17
	11.	J. G. Blakely, hardware.................	15 30
	14.	W. C. Robinson, lumber................	8 69
	14.	C. K. Haynes, telegrams................	1 20
	14.	S. C. Rodgrave, hardware	3 46
Feb.	3.	Jeffrey & Bro., blacksmithing...........	17 75
May	6.	D. C. Welch, lumber.....................	306 60
	19.	J. E. Jones, lock castings...............	305 33
June	19.	D. C. Welch, lumber.....................	258 38
July	21.	C. Rooker, brooms......................	1 25
	21.	W. U. Tel. Co., telegrams....	19 09
	21.	John Hopp, blacksmithing...............	50
	21.	W. U. Tel. Co., telegrams...............	2 85
	23.	A. M. Dillenbeck, lamp business........	7 48
	23.	W. U. Tel. Co., telegrams...............	4 89
	21.	John Hopp, filing saws..................	2 10
	23.	B. F. Lockwood, Portland cement.......	8 00

1885.

July	23.	Wm. Hannett, stone	$12	00
	21.	G. Czerney, filing saws	1	00
	21.	Murphy & Bradley, blacksmithing	25	25
	21.	S. C. Redgrave, wheelbarrows	5	25
	21.	Wm. Kreutzer, hardware	21	02
	21.	Derich & Rogers, blacksmithing	13	91
	21.	Zimmerlin Bros., paint, etc	21	23
	21.	G. H. Cramer & Co., coal	1	10
	23.	B. & M. Tel. Co., telegrams		75
	23.	C. H. & E. D. Bingham, hardware	44	61
	23.	H. T. Baker, blacksmithing	58	25
	22.	J. Jeffrey & Bro., blacksmithing	102	71
	23.	E. D. Leonard, lumber	7	10
	23.	S. S. Morley, hardware	8	90
	23.	J. Dillenbeck, telephone		45
	6.	R. J. Rogers & Co., lumber	8	35
June	30.	H. Bishop and others, pay-roll	328	67
	30.	Kennedy Son & Co., hardware	15	63
July	27.	C. Seigmund, tow line	5	20
	24.	C. R. Everson, pails, etc	1	10
	24.	Herendun & Co., lumber	22	31
	24.	Thomas Hillard, lumber	98	56
	24.	N. B. Packard & Co., hardware	9	13
	23.	James Allen, castings	18	19
	24.	John McCormack, blacksmithing	18	60
	24.	James M. Nory, use of engine	27	00
	24.	Packard & Co., hardware	3	18
	24.	W. H. Yates, coal	7	50
	27.	W. H. Gilbert, blacksmithing	22	85
	27.	J. F. Gethune, cement	5	00
	27.	J. P. Insler & Son, straw		80
	25.	D. V. Teller, freight	3	70
	25.	D. V. Teller, freight	14	67
	30.	O. H. Gorton, tools, etc	4	25
Aug.	4.	L. L. Cramer, pail, etc		68
	1.	S. Bradbury, use of engine	53	60
July	31.	G. H. Price, repairs, scow	10	72
Aug.	20.	H. Bishop and others, pay-rolls	548	35
	14.	Burnham & Miller, legal services	41	30
Sep.	17.	H. Bishop and others, pay-roll	547	75
	17.	D. V. Teller, freight	5	46
	17.	C. Rooker, tow-lines	5	95
	17.	W. U. Tel. Co., telegrams	1	79
	17.	William Kreutzner, hardware	7	80
	17.	Zimmerlin Bros., hardware	23	22
	17.	J. P. Insler & Son, tow-line	3	94
	17.	J. F. Horton, paint, etc	3	71
	29.	R. McCarthy & Son, hardware	118	25

Sep.	29.	R. McCarthy & Son, hardware..........	$14 00
Oct.	9.	H. T. Baker, blacksmithing............	3 31
	9.	W. U. Tel. Co., telegrams	2 03
	9.	H. Westcott, lock step	1 00
	9.	J. P. Insler & Son, tow-line	6 72
	9.	F. C. Moon, coal and hay...............	1 86
	9.	E. C. Battum, insect powder............	70
	9.	G. H. Price, repairs, scow..............	9 21
	9.	A. M. Dillenbeck, rope for scow	9 48
	9.	J. McCormack, blacksmithing	10 25
	9.	Jeffrey & Bro., blacksmithing	6 05
	9.	W. U. Tel. Co., telegrams...............	60
	9.	P. J. Sexton, coal and cement...........	8 05
	6.	W. U. Tel. Co., telegrams...............	1 26
	6.	Classen, S., & Bro., blacksmithing.......	10 40
	6.	D. V. Teller, freight....................	97
	10.	H. Bishop and others, pay-roll	589 00
			$6,358 88

Section, No. 9.

1884.			
Nov.	10.	D. O'Neil and others, pay-roll, scow "DeWitt Clinton"	$562 75
	10.	J. H. Bouton and others, pay-roll, scow "Rochester"	563 50
Oct.	22.	Henry Miller, common labor............	18 00
	23.	Frank Bell, common labor..............	1 50
Nov.	8.	D. C. Welsh, lumber	1,012 00
	25.	Woodbury, Moss & Co., paint, oil, etc....	28 85
	25.	Woodbury, Moss & Co., paint, oil, etc....	36 08
	25.	Woodbury, Moss & Co., paint, oil, etc....	33 44
	25.	H. A. Kingsley, hardware...............	104 58
	25.	H. A. Kingsley, hardware...............	35 10
	19.	John Tipple, lunch for men on break	1 22
Oct.	29.	J. R. Newborn, hay used at break.......	1 15
Dec.	1.	W. D. Kenney, livery..................	2 00
	6.	J. H. Boulton and others, pay-roll, Brighton break........................	25 83
	6.	J. H. Boulton and others, pay-roll, scow "Rochester"	532 75
	6.	Dan O'Neil and others, pay-roll, scow "DeWitt Clinton"	525 25
	6.	Dan O'Neil and others, pay-roll, scow "Brighton Break"	28 08
Nov.	25.	James Field, supplies from scow "Pittsford"	108 60
Dec.	9.	George C. Buell, sand bags.............	1 80
	9.	John S. Gunsaul, unloading and storing cement............................	2 00

	11.	F. Tully, Jr., supplies for scow	$5 75
	12.	Alden & Lassig, iron bridge repairs	26 00
	12.	J. F. Monks, blacksmithing	1 50
	12.	Green, McAuliffe & Co., lumber	732 07
	11.	J. B. Long, boat furnishing, etc.	6 40
	11.	J. B. Long, boat furnishing, etc.	23 05
	13.	M. H. Shay, roofing stone	135 00
	16.	C. C. Meyer & Son, lumber	69 07
1885.			
Jan.	13.	H. A. Kingsley & Co., hardware	77 89
	13.	G. W. & C. T. Crouch & Son, lumber	452 66
	13.	G. W. & C. T. Crouch & Son, lumber	405 09
	13.	Robert Barrett & Son, boat repairs	189 22
	13.	Woodbury, Morse & Son, paint, oil, etc.	42 85
	13.	Woodbury, Morse & Son, paint, oil, etc.	13 65
	13.	Edgerton & Co., coal	130 30
	13.	J. B. Long, scow furnishings	8 27
	13.	James Field, rope and whiffletree	6 48
	14.	C. H. Dunbar, hardware	6 46
	28.	M. Brigham, gravel	15 00
	26.	L. Gordon & Sons, lumber	2 61
	31.	F. Fully, Jr., hardware	90
	31.	Wm. Croston, brooms	2 50
	31.	Crouch & Sons, lumber	52 42
Mch.	14.	H. A. Kingsley & Co., hardware	68 43
April.	6.	R. & P. Plankroad, toll	3 21
	6.	Chas. Dana, painting and care of property, March	25 00
May	7.	Chas. Dana, painting and care of property, April	25 00
	15.	H. A. Kingsley & Co., hardware	34 18
	14.	H. A. Kingsley & Co., hardware	84 15
	19.	J. Emory Jones, bridge castings	144 20
	19.	Woodbury, Morse & Co., paint, etc.	2 37
	19.	Woodbury, Morse & Co., paint, etc.	8 86
	19.	Woodbury, Morse & Co., paint, etc.	5 66
	19.	Frederick O'Neil, salt for locks	6 00
	19.	Whitmore, Banber & Co., repairs, bridges.	38 75
	19.	Edgerton & Co., coal	40 00
June	8.	Alden & Lassig, bridge iron	1 93
	8.	Green & Co., lumber	157 39
	8.	M. V. Jones, pail, dipper, etc.	70
	8.	Jno. S. Gunsaul, bridge repairs	4 00
	8.	Jno. S. Gunsaul, expense, etc.	7 60
	8.	Tully House Freight Co., globe for signal lamp	1 25
	8.	H. A. Kingsley & Co., hardware	42 04
	8.	Frederick O'Neil, grease	2 00

1885.			
June	8.	Wm. Croston, brooms	$2 50
	8.	Woodbury, Morse & Co., oil, etc	25 10
	8.	Henry Smith, caulking scows	15 00
	8.	J. B. Long, hardware	31 70
	8.	H. A. Kingsley & Co., rubber	13 50
July	2.	Chas. Dana, painting scows, etc	8 06
	29.	Thos. Duffy and others, protecting lock from fire	6 00
	29.	E. J. Leonard, protecting lock from fire	1 00
Aug.	13.	White & Thomas, paint	38 85
	11.	M. Heavy, livery	3 00
	17.	James Field, rope	52 79
	17.	Edgerton & Co., coal	35 35
	11.	Wm. Croston, brooms	2 50
	11.	Crouch & Son, lumber	246 56
	11.	Woodbury, Morse & Co., paint, oil, etc	47 50
	11.	Woodbury, Morse & Co., paint, oil, etc	8 06
	11.	H. A. Kingsley & Co., hardware	36 22
	11.	J. B. Long, lanterns	12 00
	11.	J. B. Long, lanterns	16 02
	11.	C. C. Meyer & Son, timber	62 82
	11.	H. A. Kingsley & Co., hardware	106 47
	11.	Cary & Rose, files	11 53
	27.	H. W. Smith, caulking scow "Clinton"	10 00
	11.	Wm. E. Thorpe, board of men at leak	11 20
Sep.	5.	G. Van Vorst and others, pay roll scow "De Witt Clinton"	454 26
	17.	Fred O'Neil, grease for locks	6 50
	17.	S. B. Williams, oil	13 25
	17.	F. DeGarmo, repairs pump boat	5 00
	17.	H. A. Kingsley & Co., hardware	56 34
	17.	Woodbury, Morse & Co., paint and oil	5 34
	17.	Jno. S. Gunsaul, freight paid	2 86
	17.	Crouch & Sons, lumber	558 40
Oct.	13.	Woodbury, Morse & Co., oil	28 80
	2.	J. B. Long, lamp repairs and supplies	4 12
	13.	J. B. Long, lamp repairs and supplies	15 35
	13.	J. B. Long, lamp repairs and supplies	6 48
	13.	James Field, rope and pike polls	26 38
	13.	Garlock, Crandall & Co., packing	4 60
	9.	G. Van Vorst and others, pay-roll scow "De Witt Clinton"	461 50
	5.	A. K. Franklin, stone	4 50
	5.	John Owens, cement	9 00
	5.	Henry Allen, repairs bridge	2 00
	7.	D. B. Eckler, lumber	7 44
	2.	Bernard & Dyell, refreshments at fire	18 75

1885.			
Oct.	2.	Wm. Croston, brooms	$1 25
	2.	Wm. Croston, brooms	2 50
	2.	Rochester Lime Co., cement	7 50
			$9, 238 19

Section No. 10.

1884.			
Nov.	10.	A. S. Reed and others, pay roll	$504 00
	15.	Lockport Gas Co., gas	87 80
	15.	Lockport Gas Co., gas	47 40
	15.	R. B. Moore, coal	26 40
	15.	W. U. Tel. Co., telegrams	5 19
	14.	H. C. Pomeroy, hardware, etc	207 55
	14.	Higgs & Staple, paint, etc	32 38
	14.	Higgs & Staple, hardware	17 60
	14.	A. R. Ferguson, paint, etc	9 85
	14.	Pound Manufacturing Co., work	70 12
	17.	Hanlon Bros., hardware	96 08
	17.	H. E. French, oil, etc	3 20
	19.	L. J. Wright, time books	3 12
	18.	G. L. Merrill, oil, etc	5 87
Dec.	4.	National Park Works, paint	163 15
Nov.	14.	Union Printing Co., publishing	2 25
	25.	W. U. Tel. Co., telegrams	4 68
Dec.	11.	A. S. Reed and others, pay-roll	452 25
	9.	Wm. Crocker, hardware	3 65
	9.	T. H. Van Horn, oil, etc	29 00
	10.	W. U. Tel. Co., telegrams	2 93
	19.	L. Brenan, blacksmithing	3 85
	13.	A. B. Anderson, slope wall stone	20 00
	29.	Phelps & Heady, livery	6 00
	29.	B. V. Oliver, boat repairs	11 78
1885.			
Jan.	19.	D. C. Welch, lumber	345 20
	31.	Rowley & Eddy, lumber	1 52
Feb.	6.	W. U. Tel. Co., telegrams	1 79
	6.	Eckensperger & Son, tallow	64
	6.	W. U. Tel. Co., telegrams	3 48
	6.	Hanlon Bros., hardware	112 65
	6.	Pound Manufacturing Co., work	146 92
	6.	Lockport Gas Co., gas	45 20
	11.	E. H. Glidden, sand	1 00
	11.	T. W. Jackson, lumber	2 58
	6.	Evans & Liddle, brooms	5 75
	24.	M. Heavy, livery	3 00

1885.			
Mch.	4.	Chas. Dana, watchman.................	$25 00
	4.	W. U. Tel. Co., telegrams...............	1 03
April	2.	W. U. Tel. Co., telegrams...............	2 56
Feb.	6.	B. V. Oliver, repairs scow...............	6 07
May	14.	M. Scanlon, inspector...................	288 00
June	4.	J. E. E. Stuart, livery..................	4 00
	3.	J. Phelps, livery.......................	2 00
May	9.	W. U. Tel. Co., telegrams...............	10 87
June	2.	E. J. Wakeman, salt.....................	2 65
	3.	E. Bliss, lumber........................	2 23
	6.	Chas. Wood, stone........	18 00
	12.	W. U. Tel. Co., telegrams...............	8 27
	23.	E. A. Fry, agent, gas fitting............	12 81
	23.	H. C. Pomeroy, hardware..............	46 98
May	28.	E. Frisbie, livery.......................	1 50
June	3.	W. U. Tel. Co., telegrams...............	1 59
	23.	Jno. Hawkes, grease...................	1 82
	23.	Hill & Halifax, furnishing scow.........	5 73
	23.	Pound Manufacturing Co., machine work,	45 16
	23.	A. R. Ferguson, oil, etc................	10 25
	23.	Higgs & Staple, hardware, etc..........	40 56
	23.	C. W. Stanithorpe, stone and cement....	18 69
	24.	D. Van Brocklin & Son., hardware......	1 25
	26.	M. Mabie, stone.......................	10 00
	26.	D. Maher, manure and sand............	3 50
	26.	M. and J. Stack cement................	3 13
	26.	Hanlon Bros., hardware................	98 95
	26.	E. M. Card, livery.....................	2 00
	26.	S. J. Horan, stone.....................	77 00
	27.	Jno. Halloran, blacksmithing............	6 35
	27.	E. C. Cole, wheelbarrow................	13 75
	27.	James Daly, oil, wicks, etc.............	1 48
	27.	John Cox, blacksmithing................	1 90
	27.	Austin Loomis, manure.................	3 00
	27.	A. M. Backus, hay......	5 00
	27.	A. S. Reed and others, pay-roll..........	448 50
	24.	Mathew Roach, manure.................	9 00
July	18.	M. Scanlon, inspector..................	63 00
	28.	A. S. Beverly, oakum..................	2 76
	28.	Lockport Gas Co., gas..................	50 20
	28.	H. H. Servoss, freight..................	19 47
	29.	B. V. Oliver, repairs, scow..............	15 54
	29.	B. V. Oliver, repairs, scow..........	12 69
	30.	Wm. Pratt, agent, use of telephone......	1 45
Aug.	1.	Bell Tel. Co., rent, etc.	11 00
	17.	A. S. Reed and others, pay-roll.........	450 00
Sept.	5.	A. S. Reed and others, pay-roll..........	417 75

1885.			
Sept.	17.	Jackson Lumber Co., lumber	$277 53
	17.	W. U. Tel. Co., telegrams	1 55
	17.	Lockport Gas Co., gas	33 20
	17.	Lockport Gas Co., gas	25 80
	17.	Lewis & Fuller, repairs	23 44
Oct.	10.	A. S. Reed and others, pay-roll	441 00
	2.	Hanlon Bros., hardware	108 78
	5.	H. C. Pomeroy, rope	13 46
	2.	Eckensperger Bros., grease	1 47
	5.	A. S. Beverly, hardware	48 50
	2.	A. R. Ferguson, oil	7 54
	7.	Lawrence Brennan, blacksmithing	9 95
	7.	Curtis M'f'g Co., plow points	1 20
	7.	John Holloran, blacksmithing	2 10
	5.	R. B. Moore, coal	16 50
1884.			
Nov.	19.	Jackson Lumber Co., lumber	149 49
Dec.	5.	Jackson Lumber Co., lumber	5,450 11
			$11,381 89

Section No. 11.

1885.			
Nov.	10.	C. Danahy and others, pay-roll	$603 25
	8.	H. H. Baker, tallow	63 75
	1.	W. J. Knodle, tallow	30 00
Oct.	31.	D. C. Welch, lumber	536 53
Nov.	8.	Jos. E. Gavin, coal	371 90
	24.	Alex. Kirsch, diving, etc	15 00
Aug.	26.	Geo. Chambers, freight	4 90
Nov.	19.	W. Johnson, lumber	953 31
Dec.	5.	Weed & Co., hardware	50 48
	5.	C. J. Hamilton, lumber	18 57
	4.	Henry Barnes, boat repairs	15 51
	4.	Henry Barnes, coal	6 44
	4.	O. H. Gorton, hardware	25 69
	4.	O. H. Gorton, hardware	19 87
	4.	Riley Bros., boat repairs	93 08
	4.	Bean, Felthousen & Co., rep'rs and supplies.	24 22
	4.	Bean, Felthousen & Co., rep'rs and supplies.	33 95
	4.	Bean, Felthousen & Co., rep'rs and supplies.	20 27
	10.	Pound M'f'g Co., propeller blades	24 00
	11.	M. Davis and others, pay roll	85 75
	11.	C. Danahy, and others, pay-roll	535 50
	9.	W. Laverack, paint, etc	61 01
	9.	W. Laverack, paint, etc	50 87

1885.			
Dec.	9.	J. Laycock & Son, lumber	$14 70
	9.	H. G. Trout, step for dredge	1 82
	8.	J. H. Ross, cement	44 00
	4.	Howard Iron Works, repairs	29 13
	9.	H. G. Trout, repairs	32 58
	9.	H. G. Trout, repairs	49 58
	8.	W. U. Tel. Co., telegrams	4 75
	9.	H. G. Trout, repairs, dredge	22 81
	15.	Buffalo Lub. Oil Co., oil	5 30
	15.	M. Riter, repairs, boiler	20 07
	15.	Farrar & Trefts, repairs, tug	6 96
	13.	R. Walter, use of scow	152 00
	15.	Fred. Smith, lumber	32 66
	15.	Buffalo Lub. Oil Co., oil	43 78
	15.	L. A. Walker, pole	10 00
	13.	Sutton Bros, repairs, tug	14 45
	22.	W. Johnson, lumber	613 52
	23.	Swannin & Co., filing saws	3 50
	26.	F. W. Wachers, services, harbor master	50 00
	19.	B. & O. Tel. Co., telegrams	2 35
	31.	F. Smith, agt., lumber	88 01
	31.	F. Smith, agt., lumber	423 61
1885.			
Jan.	12.	Hand & Johnson, towing	196 50
	12.	Hand & Johnson, towing	7 00
	12.	Geo. Talbot, use of scow	428 00
	14.	J. H. Buckel & Co., pump	7 00
	14.	J. E. Gavin, coal	298 31
	14.	J. H. Fulton, towing	5 00
	15.	W. U. Tel Co., telegrams	6 80
	15.	D. McNaughton, blacksmithing	24 57
	15.	J. H. Ross, cement	44 00
	12.	W. M. Gillen, blacksmithing	108 79
	22.	W. Johnson, lumber	743 02
	19.	Kennedy & Co., hardware	8 50
	19.	Weed & Co., hardware	82 26
	31.	Pratt & Co., hardware	256 29
	31.	Pratt & Co., hardware	206 32
	31.	Pratt & Co., hardware	26 88
	31.	Pratt & Co., hardware	43 23
Feb.	6.	Pound Mf., Co., blades	24 00
	5.	C. J. Hamilton, sawing lumber	1 43
	5.	C. Schwinger & Co., manure	2 00
	3.	Henry Barnes, repairs, scow	84 09
	3.	Henry Barnes, coal	14 60
	3.	D. J. Austin & Co., rope, etc	5 09
	3.	J. J. Evans, tug towing	6 00

1885.			
Feb.	3.	D. McNaughton, blacksmithing	$3 28
	5.	J. H. Ross, cement	17 60
	6.	Geo. Phillips, pike-poles	3 75
	6.	G. H. Notter, repairs to steamer "Buffalo"	14 07
	5.	J. F. Keller, salt	1 50
	5.	Fowler & Sons, hardware	19 62
	5.	A. G. Kent, piles	169 52
	2.	A. McGinness, bridge tending	20 00
	12.	De Lamater & Co., stone	3,454 80
	18.	Tug O. A. Crandell, releasing stone from ice	96 00
Mch.	3.	W. Johnson, lumber	1,079 04
	14.	Ira M. Rose, hoisting	5 00
April	4.	Jos. E. Gavin, coal	32 00
	2.	H. G. Trout, repairs	33 43
	10.	J. H. Ross, cement	8 00
	10.	D. C. Welch, lumber	431 46
	10.	Jas. Boland, steam-box	44 20
	9.	H. C. Springer & Co., coal	11 63
	8.	Bean & Co., tools	4 75
	8.	W. U. Tel. Co., telegrams	4 84
	8.	W. U. Tel. Co. telegrams	6 71
	15.	J. Daw and others, pay-roll	18 20
	11.	H. G. Trout & Co., castings	31 59
	11.	Taylor & Crate, lumber	9 12
	20.	O. H. Gorton, oil, etc	15 59
	20.	Esser & Hertel, coal	7 00
	24.	Sutten & Woods, repairs,	100 33
	20.	B. & O. Tel. Co., telegrams	2 65
May	6.	R. Mills & Co., repairs	179 61
	6.	H. G. Trout, work	108 11
	7.	Jno. Daw and others, pay-roll	332 56
	7.	C. Danahy and others, pay-roll	84 30
	7.	J. Hanrahan and others, pay-roll	694 25
	9.	W. Johnson, lumber	458 31
	15.	Fred Smith, lumber	397 98
	8.	Jos. E. Gavin, coal	108 38
	18.	W. H. Minchell, caulking stone scow	50 00
	23.	J. H. Ruckell & Co., repairs, boats	195 04
	29.	Tug T. H. Fulton, work on sunken boat	10 00
	29.	Tug O. A. Crandall, work on sunken boat	10 00
June	2.	J. H. Ross, cement	13 50
	3.	J. E. Gavin, coal	207 92
	4.	Riley Bros., repairs, steamer	13 32
	4.	H. G. Trout, repairs, tug	63 82
	1.	W. U. Tel. Co., telegrams	6 47
May	27.	W. U. Tel. Co., telegrams	2 72

1885			
May	27.	C. Danahy and others, pay-roll	$564 25
	27.	J. Daw and others, pay-roll	231 50
June	15.	Weed & Co., hardware	60 55
	15.	Weed & Co., hardware	149 22
	20.	D. McNaughton, dredge repairs	150 21
	15.	W. U. Tel. Co., telegrams	5 32
	10.	Henry Curtis, use of tug	15 00
	12.	O. H. Gorton, hardware	72 33
	20.	Buff. Lub. Oil Co., oil	60 88
	19.	Patrick Mooney, inspector	796 00
	19.	S. E. Carney, inspector	924 00
	19.	Jos. E. Gavin, coal	127 50
July	10.	J. H. Ruckel & Co., hardware	28 11
	8.	C. Danahy and others, pay-roll	697 75
Sep.	13.	Bell Telephone Co., use of telephone	166 15
June	20.	H. H. Baker & Co. paint, etc	142 28
	15.	C. Fritz, lumber	148 20
	29.	C. J. Hamilton, lumber	72 72
	29.	C. J. Hamilton, lumber	127 29
July	15.	H. G. Trout, dredge washers	8 79
	23.	W. Laverack & Co., salt	2 20
	15.	H. G. Trout, dredge repairs	11 83
	18.	J. H. Ruckel & Co., scow repairs	42 31
	18.	W. U. Tel. Co., telegrams	1 91
Aug.	4.	H. H. Baker & Co., supplies for scow	87 64
	4.	H. H. Baker & Co., supplies for scow	15 65
	4.	C. Donahy and others, pay-roll	832 00
	3.	Weed & Co., hardware	31 65
	3.	Weed & Co., hardware	75 85
	10.	Buff. Lub. Oil Co., oil	61 15
	10.	J. H. Ruckel & Co., hardware	38 90
	17.	Farrar & Trefts, bridge iron	111 25
	13.	C. J. Hamilton, lumber	4 62
	13.	Jas. E. Gavin, coal	183 37
	13.	J. H. Ross, cement	14 25
	14.	W & U. Tel. Co., telegrams	5 45
	15.	Bingham & Taylor, grate bars	18 00
	15.	Weed & Co., hardware	55 74
	15.	H. Barnes, coal	3 50
	15.	A. G. Kent, piles	448 92
	17.	Ruckel & Co., scow furnishings	15 29
	17.	Pratt & Co., hardware	24 40
	15.	For Tug Asso., towing scow	12 00
	19.	O. H. Gorton, oil, etc	40 18

1885.

Aug.	19.	Gilles & Puller, blacksmithing	$80 51
	17.	H. G. Trout, repairs	6 81
	20.	A. G. Kent, white oak pile	103 40
	20.	W. F. Krodell, tallow	21 80
	28.	Wm. McHenry, pipe poles	3 50
Sept.	1.	Fred. Smith, lumber	204 96
	2.	C. Danaby and others, pay roll	776 50
	16.	W & U. Tel. Co., telegrams	4 74
	12.	Wm. Anderson, diving	10 00
	7.	Jas. E. Gavin, coal	133 49
	17.	Buff. Lub. Oil Co., oil	41 65
	17.	C. J. Hamilton, lumber	3 62
	18.	J. Laycock & Son, lumber	54 00
	17.	H. G. Trout, repairs, dredge	2 29
	17.	M. Riter, smoke pipe, etc	54 80
	17.	Ruckel & Co., repair pump	25 37
	17.	Baker & Co., rope, etc	42 58
	17.	D. McNaughton, iron work	20 93
	17.	Weed & Co., hardware	35 66
	28.	W. Johnson, lumber	2,843 20
	28.	H. H. Baker & Co., rope, etc	16 66
	28.	Bell Tel. Co., rental	17 50
	28.	Buff. Lub. Co., oil	5 25
Oct.	12.	J. H. Ruckel & Co., repairs, tug, etc	40 30
	10.	J. E. Gavin, coal	126 75
	9.	Williams & Co., hoisting tug	11 00
	9.	Weed & Co., hardware	36 29
	12.	C. J. Hamilton, lumber	14 53
	6.	C. Danaher and others, pay-roll	764 50
	6.	H. H. Baker & Co., chandlery	8 82
	6.	W & U. Tel. Co., telegrams	2 66
	6.	Tug O. E. Crandall, towing	3 00
Sept.	28.	J. C. Webb, repairs boat	132 29
			$28,960 45

Summary.

Western Division account	$6,834 94	
Section No. 8	6,358 88	
Section No. 9	9,238 19	
Section No. 10	11,381 89	
Section No. 11	28,960 45	
		$62,774 35

Extraordinary Repairs, Erie Canal.

Lengthening Lock 50 – *Chapter* 80, *Laws* 1884.

1884.			
Nov.	20.	John Colyer and others, pay-roll	$60 27
Dec.	8.	E. Phillips, derricks	300 00
	9.	N .Y., W. S. & B. R. Ry., freight	18 00
	31.	Mack Dunn & Co., hardware	91 74
1885.			
Jan.	2.	Willard Johnson, oak and hemlock	1, 193 58
	3.	W. Coakley, pails, etc	95
	3.	J. E. Craver, blacksmithing	3 25
	3.	J. D. Spaulding, foreman labor	50 00
	3.	John Colyer and others, pay-roll	161 98
	3.	Jno. D. Spaulding and others, pay roll	590 40
	3.	Jno. D. Spaulding and others, pay roll	238 15
	5.	F. P. Burtram, time-keeper	27 00
	5.	Geo. Draper, bolts, etc	32 35
	7.	S. D. Satterly, livery	20 00
	15.	Jno. Leddy, store	300 00
	20.	A. Kelsey, team labor	1 75
	20.	J. G. Fergus, stone boat plank	33 47
	22.	Willard Johnson, piles	1, 279 04
	31.	Crane Belden & Co., lumber	39 20
	31.	Crane Belden & Co., lumber	1, 513 69
Feb.	2.	Willard Johnson, lumber	377 02
	2.	M. Coakley, telephone, etc	10 50
	2.	J. E. Craver, blacksmithing	9 60
	2.	Geo. Draper, blacksmithing	50 46
	2.	Mack, Dunn & Co., hardware	65 71
	2.	Grant & Dunn, hardware	147 23
	2.	Jno. Winger and others, pay-roll	188 30
	2.	Jno. Winger and others, pay-roll	638 55
	3.	John Leddy, stone	348 00
	3.	A. Filsinger, drift bolts	109 39
	3.	F. C. Howlett, hose	8 75
	3.	Levet & Blaisdell, straight edge	2 50
	3.	John Tobin, carpenter	60 75
	7.	M. Degnan, cut stone	3, 240 00
	2.	John Colyer, pay-roll	49 75
	5.	Ned Landigan, labor	1 05
	16.	M. Degan, stone	1, 800 00
	18.	W. Johnson, oak timber	690 45
	18.	Bangs & Gaynor, cement	480 00
	18.	D. Van Aken, laying foundation timber	374 00
	18.	D. Van Aken, driving foundation piling	600 75
	19.	James Geddes, sand	475 00
Mch.	2.	John Winger and others, pay-roll	567 90

1885.				
Mch.	2.	C. M. Earl and others, pay-roll	$155	90
	2.	Robert Hayes and others, pay-roll	180	05
	2.	John Colyer and others, pay-roll	201	03
	2.	M. Conklin, pails, etc	1	50
	2.	Peter Riley, express charges	1	95
	2.	J. E. Craver, blacksmithing	5	75
	2.	John Tobin, carpenter	33	25
	2.	John Leddy, stone	450	00
	3.	George Draper, blacksmithing	45	39
	3.	Mack, Dunn & Co., hardware	93	10
April	1.	John Colyer, pay-roll	211	75
	1.	John Winger and others, pay-roll	800	00
	1.	John Winger and others, pay-roll	563	05
	1.	John Winger and others, pay-roll	614	50
	1.	J. D. Craver, blacksmithing	15	33
	1.	M. Coakley, brooms, etc	2	95
	2.	J. D. Satterly, livery.	25	00
	2.	John Tobin, carpenter labor	60	00
	2.	George Draper, blacksmithing	29	64
	3.	John Sheaver, mason	30	00
	3.	M. Degan, cut stone	1,080	00
	3.	Mack, Dunn & Co., wheelbarrow	17	50
	4.	Luret & Blaisdell, sawing	9	81
	7.	Willard Johnson, hemlock	259	92
	25.	M. Degnan, stone	1,080	00
May	1.	J. E. Craver, blacksmithing	11	07
	1.	M. Coakley, use of telephone	11	91
	1.	John Tobin, carpenter	65	00
	2.	W. Johnson, oak lumber	275	07
	2.	John Colyer, pay-roll	276	92
	2.	John Winger, pay-roll	362	00
	2.	John Winger, pay-roll	861	80
	2.	John Winger, pay-roll	690	75
	4.	H. N. Loomis, use of crab	10	50
	5.	George Draper, blacksmithing	34	12
	5.	Mack, Dunn & Co., hardware	54	93
	7.	John Leddy, field stone	144	22
	12.	M. Degnan, cut stone	2,187	00
	14.	D. Frisbie & Co., clutches	280	50
	16.	Martin & Sprague, use of derrick	24	00
	16.	John Leddy, vertical wall stone	350	85
			$27,858	41
June	23.	S. D. Kellar (John T. Williams, Adm'r), award of Board of Claims on contract for vertical on Syracuse level	$1,345	65

1885.			
June 23.	Thomas Gale, award of Board of Claims on contract for removing wall, bench, etc., on Jordan level		7,021 97
			$8,367 62

Summary.

Lengthening Lock No. 50	$27,858 51	
Awards Board Claims	8,367 62	
		$36,226 13

Recapitulation, Ordinary Repairs.

Erie Canal, general	$5,672 15	
Eastern Division	105,914 85	
Middle Division	45,810 72	
Western Division	62,774 35	
		220,172 07

Extraordinary Repairs.

Lengthening Lock No. 50	$27,858 51	
Awards of Board of Claims	8,367 62	
		36,226 13
		$256,398 20

(B.)

ERIE CANAL ENLARGEMENT.

Land Damages.

Awards of Canal Appraisers.

1885.			
June 29.	Hanah B. Davis, Sweden, Monroe county	$605 00	
" 22.	J. F. Shoellkopf, Buffalo, Erie county	850 00	
July 6.	John Simson, Tonawanda, Erie county	925 00	
			$2,380 00

Awards of the Board of Claims.

1884.			
Oct. 2.	Jacob Maber, Rotterdam, Schenectady county	$200 00	

1885.			
June	24.	Miles McGraw, West Troy, Albany county	$50 00
	23.	John Kitrick, West Troy, Albany county	75 00
	23.	John W. Trimm, Buffalo, Erie county	275 00
	25.	Charles McClintock, West Troy, Albany county	40 00
	25.	Thos. Dunn, West Troy, Albany county	40 00
	25.	Wm. Neillan, West Troy, Albany county	50 00
	25.	Patrick Purcell, West Troy, Albany county	40 00
	25.	Johanna O'Brien, admx., West Troy, Albany county	50 00
	26.	Jennie M. Kearney, Ridgway, Orleans county	400 00
	29.	John H. Keyes, admr., West Troy, Albany county	75 00
	29.	Bridget Conners, admx., West Troy, Albany county	75 00
	29.	Thomas Brennan, West Troy, Albany county	175 00
	26.	George A. Weiss, Brighton, Monroe county	45 00
	26.	John Miller, Brighton, Monroe county	60 00
	26.	George A. Weiss & M. Herbert, Brighton, Monroe county	20 00
	26.	Edmond Herbert, Brighton, Monroe county	20 00
	26.	M. A. Denslow, Brighton, Monroe county	50 00
	23.	G. M. Hill & Jacob Crouse, DeWitt, Onondaga county	450 00
	23.	G. M. Hill & Jacob Crouse, DeWitt, Onondaga county	305 00
	23.	Royal J. Hoag, Manlius, Onondaga county	125 00
	23.	Jacob Perion, Manlius, Onondaga county	125 00
	23.	Charles Spencer, DeWitt, Onondaga county	797 00
	23.	Charles Spencer, DeWitt, Onondaga county	375 00
	29.	Charles Covell, Brighton, Monroe county	50 00

1885.				
June	26.	Frederick Walbeck, Brighton, Monroe county	$125 00	
	26.	Johnson Graphite Lubricating Oil Co., Brighton, Monroe county	371 00	
July	6.	Charles Nichols, Dewitt, Onondaga county	616 90	
June	26.	Eliza B. Wing, Brighton, Monroe county	125 00	
	26.	J. H. McMann, adm'x, Brighton, Monroe county	35 00	
	26.	Mrs. Michael Meyer, Brighton, Monroe county	40 00	
July	7.	Anna Gould, Brighton, Monroe county	700 00	
	7.	Mathias Kondolf, Brighton, Monroe county	500 00	
	7.	J. B. & J. F. Morris, Brighton, Monroe county	600 00	
	7.	James Palmer, Brighton, Monroe county	1,200 00	
	7.	James D. Shellmeir, Brighton, Monroe county	800 00	
	7.	M. Herbert & G. A. Weiss, Brighton, Monroe county	550 00	
June	26.	Thomas Caley, Brighton, Monroe county	50 00	
July	11.	Alex. Tolsma, Buffalo, Erie county	500 00	
	6.	Cath. Boechat and others, Buffalo, Erie county	138 32	
June	26.	Charlotte Roseburgh, Brighton, Monroe county	50 00	
1884.				
Oct.	3.	W. M. Stule, DeWitt, Onondaga county	550 00	
	3.	Daniel Hull, DeWitt, Onondaga county	275 00	
Dec.	22.	Lucy T. Hayden, Mentz, Cayuga county	75 00	
Nov.	19.	Charles A. Danolds, Gaines, Orleans county	50 00	
Dec.	1.	H. & J. K. Beckwith, Brighton, Monroe county	250 00	
Nov.	19.	Ellen Holsenburgh, Gaines, Orleans county	75 00	
Dec.	9.	George Bullards, Albion, Orleans county	50 00	
				$11,692 32

Loss of Canal Boats.

1884.				
July	6.	E. B. Smith & T. Davis, boat "C. A. Hart"	$2,000 00	
	6.	Continental Insurance Co., boat "Flora"	2,125 00	
				$4,125 00

Personal Injury.

June	23.	Staats V. S. Fonda, Crescent, Saratoga county	1,750 00
			$19,947 32

(C.)

CHAMPLAIN CANAL.

General.

1884.			
Nov.	1.	C. A. Banker, salary expenses as patrolman, October	$112 75
Dec.	1.	C. A. Banker, salary expenses as patrolman, November	116 50
Oct.	31.	Henry Foley, harbor master, Waterford, October	50 00
Dec.	1.	Henry Foley, harbor master, Waterford, November	50 00
1885.			
June	1.	Henry Foley, harbor master, Waterford, May	33 87
	12.	Sarah E. Ensign, commutation for farm bridge	700 00
	30.	Henry Foley, harbor master, Waterford, June	50 00
Aug.	1.	Henry Foley, harbor master, Waterford, July	50 00
Sept.	1.	Henry Foley, harbor master, Waterford, August	50 00
Oct.	1.	Henry Foley, harbor master, Waterford, September	50 00
			$1,263 12

Section No. 1.

1884.			
Oct.	13.	D. H. Lewis and others, pay-roll	$78 95
	1.	W. U. Tel. Co., telegrams	9 46
Dec.	20.	National Express Co., freight	75

1884.			
Dec.	22.	Craw & Dennis, blacksmithing	$3 50
	22.	Jas. A. Wilson guard pole	1 00
	22.	G. T. McRae & Co., hardware	11 31
	22.	E. W. Towner, shovels	4 25
	22.	M. McGuire, blacksmithing	8 33
	22.	Ira Van Arnum, hardware	4 46
	22.	Craw & Dennis, blacksmithing	78 72
	23.	R. Moore & Son, shop rent, etc	51 12
	23.	J. Dodd, blacksmithing	75
	23.	J. Dodd, blacksmithing	6 56
	23.	F. Ryan, manure	1 20
	23.	J. Halpin, blacksmithing	4 25
	26.	C. E. Curtis, blacksmithing	3 00
	26.	D. Graham, repairs to boat	15 20
	26.	F. B. Barnfather, general merchandise	1 95
	26.	W. U. Tel. Co., telegrams	5 68
	26.	A. R. Baillie, general merchandise	3 91
	26.	A. McChesney, towing	3 00
	27.	M. G. Stoneman, rope	4 11
	22.	Peter Martin, repairs scow	60 72
	23.	J. M. Tabor, team labor	6 00
	23.	John Flynn, manure	1 00
	23.	W. N. Williams, blacksmithing	25
	23.	B. E. Tabor, carpenter work	30 00
	27.	H. Green's Sons & Co., hardware	27 60
	30.	Mrs. S. Seeley, lumber	10 05
	30.	Mohawk and Hudson Man'f'g. Co., repairs to lock gear	2 46
	30.	Mohawk and Hudson Man'f'g. Co., blacksmithing	8 16
	26.	Chas. E. Curtis, blacksmithing	25
1885.			
Jan.	5.	W. U. Tel. Co., telegrams	4 36
March	14.	Mohawk and Hudson Man'f'g. Co., blacksmithing	1 50
	14.	James Halpin, blacksmithing	3 04
	14.	W. U. Tel. Co., telegrams	2 48
	14.	Jno. Higgins & Co., glass	1 17
	14.	F. B. Barnfather, repairs, stove	1 00
	14.	John Evers, coal and wood	35 75
	14.	John Evers, coal and wood	24 25
	14.	Ira Van Aumen, rope	10 29
	14.	Ira Van Aumen, hardware	1 90
	16.	A. McChesney, towing	1 50
	21.	M. G. Stoneman & Son, rope, etc	17 15
	21.	B. L. Hurds, telephone message	60
	21.	Alonzo Russell, salt and oil	11 20
	21.	G. S. McRae & Co., hardware	2 38

1885.			
March	21.	Ralph Russell, use of scow	$157 50
	21.	Craw & Dennis, gate elevators	44 00
	21.	Craw & Dennis, blacksmithing	17 81
	21.	G. P. Laing, timber for Coonville break	19 23
	23.	Frank B. Peck, coal for lock house	5 50
	25.	The Doncaster Works, repairs to lock	6 10
	25.	J. Dodd, blacksmithing	6 85
	25.	Robert Moore & Son, rent of shop	50 00
	25.	Robert Moore & Son, rent of shop	52 75
	25.	Stephen Wood, sawing timber	103 50
	26.	Abel Brimmer, damage to crops, Coonville break	5 00
May	20.	C. Vanderkar and others, pay-roll	188 02
	25.	B., H. T. & W. Ry., freight	18 00
	29.	C. Vanderkar and others, pay-roll	159 30
	29.	Robert Moore & Son, cement and lumber,	43 53
	29.	S. W. Baker, sand	3 15
	29.	Anthony Becker, sand	9 00
	29.	Joseph Dodd, blacksmithing	3 50
	29.	Maurice O'Brien, clay	22 50
	20.	S. Flanburgh, blacksmithing	1 25
June	1.	W. U. Tel. Co., telegrams	1 94
	1.	Craw & Dennis, blacksmithing	2 00
	2.	J. Dodd, blacksmithing	73
	4.	G. E. Laing, sawing timber	1 92
	4.	G. S. McRae & Co., hardware	2 04
	17.	Corning & Co., hardware	33 85
	19.	R. McMahon, paint	10 10
	20.	Ralph Russell, use of scow	27 00
	22.	W. U. Tel. Co., telegrams	1 56
	22.	N. Y. & L. C. Trans. Co., telephone messages	30
	22.	Mohawk & Hudson M'f'g. Co., fitting lock gear	25
	22.	A. R. Baillie, repairs, lock lamps	1 09
	22.	Stephen Wood, lumber	60 00
	22.	J. Higgins & Co., glass	92
	22.	Ira Van Aumen, hardware	84
	22.	F. B. Barnfather, lamps, etc	4 34
	22.	Robert Moore & Son, shop rent and lumber	53 56
	22.	Sundry lock tenders, care lock, lamps, etc.	19 00
	22.	Flood, Monty & Co., lumber	5 00
July	7.	D. & H. Canal Co., freights	25
	27.	M. V. B. Washburn, hardware	1 91
	27.	J. B. Welch, cement	2 50
	27.	M. J. Healey, use of boat	5 00

1885.			
July	27.	G. S. McRae & Co., general mercandise..	$10 36
	27.	G. S. McRae & Co., rope................	3 22
	27.	B., H. T. & W. R. R. Co., freight......	95
	27.	W. U. Tel. Co., telegrams...............	2 25
	27.	Craw & Dennis, blacksmithing...........	2 00
	28.	J. Dodd, blacksmithing.................	8 05
	28.	William Burtons & Sons, sawing........	2 00
	28.	W. U. Tel. Co., telegrams...............	3 48
	28.	F. B. Barnfather, brooms, etc...........	75
Aug.	1.	Sundry lock tenders, oil for locks........	38 00
	29.	Ralph Russell, use of scow..............	43 50
Sept.	4.	David Graham, repairs, scow............	39 10
	4.	T. H. Bowditch, blacksmithing...........	1 35
	4.	William Burton's Sons, sawing..........	51 50
Oct.	21.	Ralph Russell, use of scow	105 00
	21.	Craw & Dennis, hardware..............	10 15
	22.	W. U. Tel. Co , telegrams...............	1 26
	22.	William McCann, blacksmithing	25
	22.	D. Graham, repairs, scow...............	12 47
	22.	E. A. Wilkins, hay, etc..................	1 00
	22.	Tug "Wm. Orr," towing..................	12 00
	22.	John Dodd, blacksmithing..............	2 00
	22.	Union Bridge Co., bridge toll...........	50
	22.	J. Harriman, telegrams.................	1 55
	22.	F. B. Barnfather, stove pipe, broom, etc...	2 80
	22.	Stephen Wood, sawing	80
	22.	G. S. McRae & Co., hardware..........	1 68
	22.	R. B. Moore & Son, shop rent	50 00
	22.	Sundry lock tenders, oil for locks........	38 00
	22.	Corning & Co., hardware	8 85
			$2,173 74

Section No. 2.

1884.			
Oct.	17.	Griffin, Knapp & Co., cement	$15 00
	20.	H. G. Burleigh & Bro., lumber.........	652 63
	28.	J. T. Finch, labor	35 00
Nov.	10.	W. Carpenter, freight..................	5 00
	22.	W. U. Tel. Co., telegrams..............	5 17
	22.	C. F. Cooper, blacksmithing...........	17 76
	22.	J. Wagoner, axes	1 90
	24.	S. T. Guilfort, saw	3 00
	24.	A. Burke, blacksmithing	22 49
	24.	P. Dardis, oil, etc	3 81
	24.	Montgomery Bros., cement..........	1 75
	24.	Kenyon & Baldwin, lumber and sawing..	14 52

1884				
Nov.	25.	P. Beanlac, plastering lock house	$5	16
	26.	Hubbell & Wells, horse hire	14	00
	26.	W. H. Tompkins & Son, lumber	3	03
	26.	T. G. Tilton & Co., straw	1	12
	29.	W. R. De Garmo & Son, oil	6	00
	29.	E. Fish, freight	40	00
Dec.	1.	M. Buckley, freight	25	00
	6.	Cipperly & Co., cement	10	32
	11.	D. Bernard, labor, etc	17	85
	23.	C. Wells and others, pay-roll	181	00
	23.	R. B. Shirrell, special foreman, November	32	50
	23.	R. B. Sherrill, special foreman, December	5	00
	24.	W. H. Mathews, nails		35
	24.	Montgomery Bros., cement	19	80
	24.	W. R. DeGarmo & Son, rope	3	52
	24.	Newton & Partridge, crowbars	3	20
1885.				
Jan.	13.	Deimel & Snell, lumber	792	72
	15.	D. & H. Canal Co., freight	21	26
Feb.	12.	Deimel & Snell, lumber	540	32
	16.	D. & H. Canal Co., freight	13	20
	17.	Griffin, Knapp & Co., lumber	5	03
March	12.	DeLong & Son, hardware	12	35
	12.	Newton & Partridge, hardware	5	20
	12.	W. H. Mathews, hardware	4	77
	12.	W. H. Mathews, hardware	43	63
	12.	S. Doolittle, lock castings	26	90
	12.	Geo. Sherrill, hardware	47	34
	12.	Geo. Sherrill, hardware	10	50
	12.	Geo. Sherrill, hardware	53	98
	12.	Graham & Rivers, blacksmithing	63	07
	12.	Alex. Burke, blacksmithing	22	75
	12.	G. H. Sanders, blacksmithing	40	26
	12	Sidney Wait, blacksmithing	7	30
	12.	Jas. E. DeGrush, blacksmithing	12	96
	12.	Jas. E. DeGrush, bolts	5	12
	12.	Bradley & Underwood, lumber	19	99
	12.	Samuel Pruyn, lumber	159	24
	12.	Kenyon & Baldwin, lumber	12	08
	12.	Kenyon & Baldwin, lumber	34	24
	12.	Kenyon & Baldwin, sawing	1	23
	12.	Zenas Van Dusen, lumber	48	00
	12.	Griffin, Knapp & Co., lumber	10	80
	12.	Griffin, Knapp & Co., cement	34	50
	12.	Montgomery Bros., coal	5	40
	12.	Jointa Lime Co., stone, etc	27	00
	12.	Jointa Lime Co., labor	7	40
	12.	Henry Taylor, team labor	1	50

1885.				
March	12.	Northrup & Vanderwerker, repairs	$15	86
	12.	Thos. Brice, labor	4	20
	12.	Hubbell & Wells, horse-hire	9	50
	12.	W. U. Tel. Co., telegrams	5	63
	12.	Geo. H. Norton & Co., salt, etc	9	93
	12.	Jas E. Flood, paint and glass	7	79
	12.	P. Dardis, oil, etc	11	35
	12.	J. McFarland, paint and glass	17	41
	12.	W. R. DeGarmo & Son, rope, etc	27	40
	12.	W. R. DeGarmo & Son, oil	2	55
	12.	T. L. Skiff, oil	3	85
	12.	F. B. Davis, paint and oil	7	66
	12.	Wm. Hannis, oil and coal	36	73
	12.	A. F. Nichols, rope and lumber	8	36
	12.	Crawford Bros., general merchandise	1	79
	12.	D. Peck & Bros., rope	8	32
	12.	K. Lusting, rubber boots	3	50
	12.	Jno. Wagman, lantern and nails	1	22
May	27.	Glens Falls Co., lumber	53	12
	27.	Kenyon & Baldwin, lumber	33	18
	27.	Kenyon & Baldwin, lumber	4	23
	27.	Griffin, Knapp & Co., lumber	22	61
	27.	Graham & Rivers, blacksmithing	138	96
	27.	A. Burke, blacksmithing	23	22
	27.	W. H. Mathews, hardware	6	52
	27.	Geo. Sherrill, hardware	16	17
	27.	P. Dardis, general merchandise	1	15
	27.	L. Holbrook, washers	27	40
June	10.	D. & H. Canal Co., freight	1	44
	12.	R. S. Coleman, clay	34	00
	25.	Kenyon & Baldwin, lumber	13	87
	25.	Kenyon & Baldwin, lumber	6	42
	25.	Geo. Sherrill, hardware	30	50
	25.	Geo. Sherrill, hardware	19	86
	25.	Griffin, Knapp & Co., lumber	46	48
	25.	Griffin, Knapp & Co., lumber	6	88
	25.	J. S. McFarland, paint	9	50
	25.	Worth & Larkin, blacksmithing	18	36
	25.	Graham & Rivers, blacksmithing	7	70
	25.	Graham & Rivers, blacksmithing	30	43
	26.	E. L. Potter, paint	8	15
	26.	Hubbell & Wells, horse hire	5	50
	26.	M. H. Tompkins & Son, lumber	6	76
	26.	W. H. Mathews, hardware	12	18
	26.	W. H. Mathews, hardware	11	85
	26.	Newton & Partridge, hardware		75
	26.	S. Doolittle, lock castings	41	60

1885.

June	26.	P. Dardis, hay and brooms	$1 95
	26.	Durkee & Co., cement and stone	16 25
	26.	Sidney Wait, blacksmithing	32 94
	26.	Alex. Burke, blacksmithing	20 96
	26.	Alex. Burke, blacksmithing	8 42
	26.	Alex. Burke, blacksmithing	5 10
	26.	Sundry lock tenders, oil for lamps	32 00
	27.	D. S. Van Slyke, lumber	236 64
	27.	Van Schaick Bros. & Co., stone	10 13
July	21.	Lyman Holbrook, bridge washers	24 28
	25.	George Sherrill, hardware	3 00
	25.	Caleb Wells and others, pay-roll	86 50
	25.	Sundry persons	40 20
	27.	M. D. Sherrill and others, pay-roll	134 35
	27.	Kenyon & Baldwin, lumber	21 31
	27.	R. S. Coleman, clay	12 00
Aug.	27.	James E. Flood, paint	7 86
	27.	Graham & Rivers, blacksmithing	5 10
	27.	C. F. Cooper, blacksmithing	8 26
	27.	Alex. Burke, blacksmithing	1 83
	27.	Kenyon & Baldwin, lumber	4 47
	27.	Kenyon & Baldwin, lumber	3 89
	27.	Tefft, Hinckley & Co., lumber	5 80
	27.	Northrup & Vanderwerker, repairs, scow	10 44
	27.	W. U. Tel. Co., telegrams	2 86
	27.	W. U. Tel. Co., telegrams	2 82
	27.	W. H. Mathews, hardware	3 75
	27.	W. H. Mathews, hardware	3 87
	28.	George Sherrill, hardware	9 81
	28.	George Sherrill, hardware	4 42
	29.	Hubbell & Wells, horse hire	2 00
	29.	M. Marshall, blacksmithing	95
Sept.	1.	Sidney Wait, blacksmithing	2 75
	1.	John Wagman, paint	4 93
	1.	J. McFarland, paint	4 63
	1.	M. H. Hunt, horse hire	4 00
	1.	Sundry lock tenders, oil for locks	64 00
	21.	Griffin, Knapp & Co., lumber	1 68
	21.	Griffin, Knapp & Co., lumber	6 66
	21.	Tefft, Hinckley & Co., lumber	1 04
	21.	Tefft, Hinckley & Co., lumber	5 60
	21.	Kenyon & Baldwin, lumber	15 57
	21.	Kenyon & Baldwin, lumber	4 85
	21.	George R. Day, blacksmithing	1 25
		Alex. Burke, blacksmithing	2 50
		Graham & Rivers, blacksmithing	19 66
		Graham & Rivers, blacksmithing	8 75
		Wroath & Larkin, blacksmithing	17 05

1885.			
		Newton & Partridge, hardware	$2 45
		W. H. Mathews, hardware	1 30
		W. H. Mathews, hardware	1 55
		George Sherrill, hardware	9 28
		George Sherrill, hardware	11 87
		James E. Flood, paint	5 57
		W. U. Tel. Co., telegrams	2 52
		Hubbell & Wells, horse hire	4 00
		Crawford Bros., supplies for scow	2 10
		Northrup & Vanderwerker, repairs, ice breaker	6 09
		Sundry lock tenders, oil for locks	64 00
April	17.	Sandy Hill Quarry Co., stone	584 24
			$5, 681 50

Section No. 3.

1884.			
Oct.	16.	J. D. Hancock, gravel	$54 00
Nov.	24.	Finch & Co., general merchandise	78 92
	24.	N. Y. & L. C. Trans. Co., towing	42 00
	24.	H. G. Burleigh & Bro., use of lighter	102 00
	24.	Wood & Hotchkiss, hardware	38 38
	24.	C. Ryan, tow lines	15 04
	24.	J. W. Whalen, dump cart, etc	46 00
	24.	Jno. Brett, oil for lamps	14 14
	24.	E. E. Sexton, blacksmithing	29 76
	24.	Fort Ann Dry Dock, building new gate	143 27
	24.	Union Tel. & Tel. Co., telephone rent	13 68
	24.	Polly Osgood & Co., sawing timber	7 00
	24.	W. B. Waters, blacksmithing	30 07
	24.	W. U. Tel. Co., telegrams	6 45
	24.	P. Henry Towing Co., towing	21 00
Dec	17.	D. & H. Canal Co., freight	56 70
	27.	C. H. Latmer, blacksmithing	8 25
	31.	J. Butt, oil	5 03
	31.	J. H. Sullivan & Co., rope	13 76
	31.	Wood & Hotchkiss, hardware	33 90
	31.	H. G. Burleigh & Bro., use of boat	162 00
	31.	W. U. Tel. Co., telegrams	3 55
	31.	John Barrett, rope for scow	3 36
	31.	O. H. Manville paint and oil	24 00
	31.	N. Y. & L. C. Trans. Co., gas pipe rollers	2 00
	31.	Whitehall Coal Co., coal	22 99
	31.	E. A. Lewis, tools, etc	5 50
	31.	R. M. Whitehead, rope for scow	4 36
	31.	Sheldon & Co., oil and lamp	2 51
	31.	W. U. Tel. Co., telegrams	97

1884.			
Dec.	31.	Finch & Co., hardware	$15 43
	31.	E. E. Sexton, blacksmithing	12 75
	31.	P. Henry Towing Co., towing	3 00
Feb.	12.	Deimel & Snell, lumber	384 19
Mch.	13.	W. D. Travis, repairs to lamp	40
	13.	William B. Waters, blacksmithing	18 66
	13.	D. O. Briggs, oil for lock house	7 03
	31.	D. & H. Canal Co., freight	10 00
Apr.	6.	D. & H. Canal Co., freight	2 65
	6.	D. & H. Canal Co., freight	1 35
May	2.	Whitehall Lumber Co., lumber	7 46
	2.	J. H. Gannon, lumber and coal	24 51
	2.	D. & H. Canal Co., freight	43
	2.	D. & H. Canal Co., freight	75
June	19.	Corning & Co., shovels	14 25
	23.	J. Cunningham, oil, lock lamps	4 00
	23.	Frank Briggs, oil, lock lamps	2 00
	23.	D. & H. Canal Co., freight	70
	23.	Deimel & Snell, lumber	39 69
	23.	M. D. Ingalsbee, manure	14 25
	23.	J. H. Sullivan & Co., rope	8 50
	23.	Finch & Co., general merchandise	6 97
	23.	Frank Parish, stove	11 00
	23.	E. A. Lewis, hardware	11 80
	24.	Wood & Hotchkiss, hardware	7 64
	24.	James Kelly, oil, lock lamps	6 00
	24.	W. U. Tel. Co., telegrams	4 87
	24.	O. A. Manville, oil, etc	20 10
	24.	Joseph Potter, sand	22 00
	24.	Jesse Richardson, oil, lock lamps	1 00
	25.	James Maguire, sand	1 00
	30.	William Hyck, oil, lock lamps	1 00
July	1.	John Galloa, hardware	1 75
	24.	D. & H. Canal Co., freight	30 87
	24.	National Express Company, tranportation	1 10
	24.	W. U. Tel. Co., telegrams	2 92
Aug.	5.	P. H. Corbett, watchman	40 00
	27.	Wood & Hotchkiss, hardware	4 85
	27.	Whitehall Lumber Company, lumber	36 20
	27.	George Yale, hay	2 26
	27.	C. Ryan, boat pole	1 00
	27.	L. Corbett, paint	43 60
	27.	Barligh & Brother, use of lighter	106 00
	27.	W. U. Tel. Co., telegrams	1 45
	27.	W. B. Waters, blacksmithing	2 38
	27.	W. B. Waters, blacksmithing	7 12
	28.	D. Quackenbush, lumber	252 98

1884.			
Aug.	29.	O. W. Sheldon, pails, etc	$1 25
	31.	C. C. Baker, bush hook	1 00
	31.	M. D. Ingalsbee, boat pole	1 00
	31.	G. W. L. Smith, paint, etc	5 45
	31.	E. A. Lewis, hardware	1 57
	31.	E. E. Sexton, blacksmithing	3 62
Sept.	1.	Sundry lock tenders, oil for lock	28 00
Oct.	1.	National Express Company, transportation	1 05
	21.	William Barrett, cartage	2 00
	21.	W. U. Tel. Co., telegrams	8 44
	21.	N. Y. & L. C. Trans. Co., towing	20 00
	21.	H. G. Burleigh & Brother, use of lighter	104 00
	21.	Michael Dempsey, bank watchman	35 00
	21.	Finch & Co., hardware	2 45
	21.	Wood & Hotchkiss, hardware	11 03
	21.	O. H. Manville, paint	2 88
	21.	Charles Aikens, horse hire	4 00
	21.	W. B. Waters, blacksmithing	1 48
	21.	Whitehall Lumber Company, lumber	4 91
	21.	Fort Ann Dry Dock Company, lumber	8 13
	22.	Fort Ann Dry Dock Company, coal	4 05
	22.	R. F. Sutherland, team labor	10 50
	22.	E. A. Lewis, hardware	5 00
	22.	E. E. Sexton, blacksmithing	5 40
	22.	S. S. Hubbell, team labor	2 00
	22.	Aaron White, ties	10 00
	22.	Sundry lock tenders, oil for locks	28 00
			$2,502 65

Summary Ordinary Repairs.

Champlain Canal, general	$1,263 12	
Section No. 1	2,173 74	
Section No. 2	5,681 50	
Section No. 3	2,502 65	
		$11,621 01

IMPROVEMENT CHAMPLAIN CANAL.

Contract Work.

1884.			
Oct.	15.	Chester Ray, constructing culvert and strengthening twelve chains of canal, three-quarter mile south of Fort Miller Lock	$158 00

1884.		
Dec. 24.	Chester Ray, constructing culvert and strengthening twelve chains of canal, three-quarter mile south of Fort Miller lock	$338 00
1885.		
Jan. 16.	Chester Ray, constructing culvert and strengthening twelve chains of canal, three-quarter mile south of Fort Miller lock	175 00
Feb. 13.	Chester Ray, constructing culvert and strengthening twelve chains of canal, three-quarter mile south of Fort Miller lock	293 00
Mch. 18.	Chester Ray, constructing culvert and strengthening twelve chains of canal, three-quarter mile south of Fort Miller lock	184 00
May 23.	Chester Ray, constructing culvert and strengthening twelve chains of canals, three-quarter mile south of Fort Miller lock	121 00
June 20.	Chester Ray, constructing culvert and strengthening twelve chains of canal, three-quarter mile south of Fort Miller lock	173 00
1884.		
Oct. 15.	Chester Ray, improving eleven chains of canal at first railroad bridge north of lock 20, etc	35 00
Dec. 20.	Chester Ray, improving eleven chains of canal at first railroad bridge north of lock 20, etc	197 00
1885.		
Jan. 16.	Chester Ray, improving eleven chains of canal at first railroad bridge north of lock 20, etc	452 00
Feb. 13.	Chester Ray, improving eleven chains of canal at first railroad bridge north of lock 20, etc	442 00
Mch. 18.	Chester Ray, improving eleven chains of canal at first railroad bridge north of lock 20, etc	473 00
Apl. 15.	Chester Ray, improving eleven chains of canal at first railroad bridge north of lock 20, etc	1,422 00
May 18.	Chester Ray, improving eleven chains of canal at first railroad bridge north of lock 20, etc	891 00
June 11.	Chester Ray, improving eleven chains of	

1885.		
	canal at first railroad bridge north of lock 20, etc	91 00
July 21.	Chester Ray, improving eleven chains of canal at first railroad bridge north of lock 20, etc	1, 238 33
1884.		
Oct. 15.	Chester Ray, improving fifty-four chains of canal, building bridge abutments, etc., two and one-half miles south of Schuylerville	472 00
1885.		
Feb. 13.	Chester Ray, improving fifty four chains of canal, building bridge abutments, etc., two and one-half miles south of Schuylerville	768 00
Mch. 13.	Chester Ray, improving fifty-four chains of canal, building bridge abutments, etc., two and one-half miles south of Schuylerville	661 00
Apl. 15.	Chester Ray, improving fifth-four chains of canal, building bridge abutments etc., two an done-half miles south of Schuylerville	573 00
May 23.	Chester Ray, inproving fifty-four chains of canal, building bridge abutments, etc., two and one-half miles south of Schuylerville	3, 380 00
June 20.	Chester Ray, improving fifty-four chains of canal, building bridge abutments, etc., two and one-half miles south of Schuylerville	1, 652 00
Nov. 18.	Chester Ray, improving fifty-four chains of canal, building bridge abutments, etc., two and one-half miles south of Schuylerville	1,319 00
Dec. 20.	Chester Ray, improving fifty-four chains of canal, building bridge abutments, etc., two and one-half miles south of Schuyerville	3,642 00
1885.		
Jan. 16.	Chester Ray, improving fifty-four chains of canal, building bridge abutments, etc., two and one-half miles south of Schuylerville	373 00
1884.		
Oct. 15.	Chester Ray, improving thirteen and one-half chains of canal, one mile south of Whitehall	76 00

1884.			
May	23.	Chester Ray, improving thirteen and one-half chains of canal, one mile south of Whitehall	$60 00
Aug.	18.	Chester Ray, improving thirteen and one-half chains of canal, one mile south of Whitehall	437 82
Nov.	18.	Chester Ray, improving forty-one chains of canal between bridges 139 and 140	552 00
Dec.	20.	Chester Ray, improving forty-one chains of canal between bridges 139 and 140	942 00
1885.			
Jan.	16.	Chester Ray, improving forty-one chains of canal between bridges 139 and 140	92 00
Feb.	13.	Chester Ray, improving forty-one chains of canal between bridges 139 and 140	972 00
Mch.	13.	Chester Ray, improving forty-one chains of canal between bridges 139 and 140	1,924 00
Apl.	15.	Chester Ray, improving forty-one chains of canal between bridges 139 and 140	1,122 00
May	18.	Chester Ray, improving forty-one chains of canal between bridges 139 and 140	1,537 00
June	11.	Chester Ray, improving forty-one chains of canal between bridges 139 and 140	831 00
Aug.	18.	Chester Ray, improving forty one chains of canal between bridges 139 and 140	1,396 70
1884.			
Nov.	18.	Chester Ray, improving thirty-four chains of canal, and constructing bridge abutment and superstructure at Stillwater	1,096 00
Dec.	20.	Chester Ray, improving thirty-four chains of canal, and constructing bridge abutment and superstructure at Stillwater	1,340 00
1885.			
Jan.	16.	Chester Ray, improving thirty-four chains of canal, and constructing bridge abutment and superstructure at Stillwater	81 00
Feb.	27.	Chester Ray, improving thirty-four chains of canal, and constructing bridge abutment and superstructure at Stillwater	1,609 00
Mar.	13.	Chester Ray, improving thirty-four chains of canal, and constructing bridge abutment and superstructure at Stillwater	989 00
Apl.	15.	Chester Ray, improving thirty-four chains of canal, and constructing bridge abutment and superstructure at Stillwater	542 00
May	23.	Chester Ray, improving thirty-four chains of canal, and constructing bridge abutment and superstructure at Stillwater	1,937 00

1885.		
June 20.	Chester Ray, improving thirty-four chains of canal, and constructing bridge abutment and superstructure at Stillwater..	$299 00
1884.		
Dec. 20.	Chester Ray, rebuilding waste-weir above lock 11...........................	234 00
1885.		
Jan. 16.	Chester Ray, rebuilding waste-weir above lock 11...........................	161 00
Feb. 13.	Chester Ray, rebuilding waste-weir above lock 11...........................	217 00
Mar. 13.	Chester Ray, rebuilding waste-weir above lock 11...........................	795 00
May 23.	Chester Ray, rebuilding waste-weir above lock 11...........................	271 00
1884.		
Oct. 16.	Sherman & McDonough, building four tow-path and three berme bridge abutments.......................	2,223 00
Nov. 18.	Sherman & McDonough, building four tow-path and three berme bridge abutments...........................	461 00
1885.		
Jan. 16.	Sherman & McDonough, building four tow-path and three berme bridge abutments...........................	97 00
Feb. 13.	Sherman & McDonough, building four tow-path and three berme bridge abutments...........................	456 00
May 23.	Sherman & McDonough, building four tow-path and three berme bridge abutments...........................	425 00
1884.		
Oct. 16.	Sherman & McDonough, rebuilding waste-weir at Burton's mill.................	259 00
Dec. 20.	Sherman & McDonough, rebuilding waste-weir at Burton's mill.................	997 00
1885.		
Jan. 16.	Sherman & McDonough, rebuilding waste-weir at Burton's mill.................	396 00
Feb. 15.	Sherman & McDonough, rebuilding waste-weir at Burton's mill	797 00
March 13.	Sherman & McDonough, rebuilding waste-weir at Burton's mill	1,495 00
April 15.	Sherman & McDonough, rebuilding waste-weir at Burton's mill	586 00

1885.		
Aug. 12.	Sherman & McDonough, rebuilding waste-weir at Burton's mill	$2,218 44
1884.		
Dec. 20.	Sherman & McDonough, constructing spillway between locks five and six	743 00
1885.		
Jan. 16.	Sherman & McDonough, constructing spillway between locks five and six	373 00
Feb. 13.	Sherman & McDonough, constructing spillway between locks five and six	901 00
March 20.	Sherman & McDonough, constructing spillway between locks five and six	532 00
April 15.	Sherman & McDonough, constructing spillway between locks five and six	936 00
May 28.	Sherman & McDonough, constructing spillway between locks five and six	551 00
Aug. 12.	Sherman & McDonough, constructing spillway between locks five and six	882 09
1884.		
Dec. 20.	Flood, Monty & Co., constructing culvert at Thornes lane, etc	1,231 00
1885.		
Jan. 16.	Flood, Monty & Co., constructing culvert at Thornes lane, etc	512 00
Feb. 13.	Flood, Monty & Co., constructing culvert at Thornes lane, etc	1,470 00
May 22.	Flood, Monty & Co., constructing culvert at Thornes lane, etc	757 00
1884.		
Dec. 20.	Flood, Monty & Co., strengthening thirteen and a half chains of tow-path south of waste weir No. 9	2,882 00
1885.		
Jan. 16.	Flood, Monty & Co., strengthening thirteen and a half chains of tow-path south of waste weir No. 9	203 00
Feb. 13.	Flood, Monty & Co., strengthening thirteen and a half chains of tow-path south of waste weir No. 9	347 00
March 18.	Flood, Monty & Co., strengthening thirteen and a half chains of tow-path south of waste weir No. 9	557 00
June 1.	Flood, Monty & Co., strengthening thirteen and a half chains of tow-path south of waste weir No. 9	374 00
July 27.	Flood, Monty & Co., strengthening thirteen and a half chains of tow-path south of waste weir No. 9	874 66

1885.			
April	15.	Flood, Monty & Co., improving sixteen and a half chains of canal north of Waterford guard lock	$323 00
May	21.	Flood, Monty & Co., improving sixteen and a half chains of canal north of Waterford guard lock	1,307 99
1884.			
Dec.	20.	Flood, Monty & Co., rebuilding spillway and waste weir at lock 20, Wood creek.	255 00
March	18.	Flood, Monty & Co., rebuilding spillway and waste weir at lock 20, Wood creek.	617 00
April	15.	Flood, Monty & Co., rebuilding spillway and waste weir at lock 20, Wood creek.	288 00
May	21.	Flood, Monty & Co., rebuilding spillway and waste weir at lock 20, Wood creek.	393 00
Aug.	25.	Flood, Monty & Co., rebuilding spillway and waste weir at lock 20, Wood creek.	467 75
1885.			
Jan.	16.	Groton Iron Bridge Co., including prism, including the building of two bridge abutments and one superstructure at the foot of Glens Falls feeder	537 00
May	21.	Groton Iron Bridge Co., including prism, including the building of two bridge abutments and one superstructnre at the foot of Glens Falls feeder	875 00
Aug.	7.	Groton Iron Bridge Co., including prism, including the building of two bridge abutments and one superstructure at the foot of Glens Falls feeder	254 91
June	29.	John C. Buckley, improving twenty-five and a half chains Glens Falls feeder, near guard lock	2,267 06
			$71,158 75

Improving eighteen chains of Canal near Railroad Bridge, Whitehall.

1884.			
Oct.	6.	S. Mahan, pay-roll, September	$74 00
	3.	C. Ryan, rope	12 16
	8.	M. Gilligan, stone	68 00
Nov.	3.	M. Gilligan, stone	34 00
	3.	Henry Waters, sand	84 00
	3.	P. H. Corbett, timekeeper	25 00
	15.	C. Ryan, rope	25 12
	20.	S. K. Griswold, weighing stone	6 54
	20.	W. D. Travis, crowbars	2 40
	21.	S. Mahan, pay-roll, October	43 00

1884.				
	21.	S. Mahan, pay-roll, October	$39	00
	21.	S. Mahan, pay-roll, November	174	50
Mch.	21.	S. Mahan, pay-roll, November	56	75
	24.	S. Mahan, pay-roll	245	00
	24.	Alvin Rouse, labor	8	25
	25.	D. V. Briggs, stone	392	00
	28.	S. Snow, common labor	8	25
Dec.	6.	Thos. McClusky, use of boat	32	50
	6.	John Morrison, use of boat	27	50
	10.	W. F. Allen, timekeeper	37	50
	11.	P. H. Corbett, timekeeper	12	00
	11.	National Express Co., express charges	1	65
	16.	R. H. Cook, cement	176	00
	17.	D. & H. C. Co., freight	4	05
	20.	Howe Scale Co., weigh books	2	00
1885.				
Jan.	1.	S. Mahan, superintendent, pay-roll	241	20
	1.	S. Mahan, superintendent, pay-roll	236	70
	1.	S. Mahan, superintendent, pay-roll	134	10
	1.	S. Mahan, superintendent, pay-roll	28	35
	31.	S. Mahan, superintendent, pay-roll	320	50
	31.	S. Mahan, superintendent, pay-roll	451	80
	31.	S. Mahan, superintendent, pay-roll	80	65
	31.	S. Mahan, superintendent, pay-roll	413	20
	14.	M. Gilligan, stone	315	00
	15.	Jerry Adams, stone	148	50
	15.	Whitehall Lumber Co., lumber	177	16
	14.	R. H. Cook, cement	110	00
	16.	Howes Cave Association, cement	182	70
	19.	National Express Co., transportation		25
	30.	National Express Co., transportation		90
Jan.	17.	Corning & Co., Wheelbarrow and pick	53	60
	15.	D. & H. Co., freight or cement	73	74
	13.	W. B. Walter, spikes	11	00
	13.	P. H. Corbett, weighing stone	52	00
	13.	W. F. Allen, timekeeper	31	20
	17.	O. W. Sheldon, timber	12	36
	15.	Geo. M. Barton, running plank	30	22
	16.	S. K. Griswold, salt	19	35
	17.	Wood & Hotchkiss, tools and hardware	33	07
	16.	W. U. Tel. Co., telegrams	3	59
Feb.	12.	S. Mahan, pay-roll	823	18
	12.	S. Mahan, pap-roll	403	80
	12·	S. Mahan, pay-roll	246	00
	16.	P. H. Corbett, weighing stone	54	00
	16.	Wood & Hotchkiss, hardware	28	63
	16.	W. D. Butts, timekeeper	54	00
	16.	Whitehall Lumber Co., lumber	62	81
	16.	S. K. Griswold, salt	38	40

1885.			
Feb.	16.	W. Gilligan, stone	$507 00
	16.	J. Adams, stone	253 50
	16.	O. J. McGowan, wood	8 75
	16.	Whitehall Coal Co., coal	42 00
	16.	Geo. Yerks, use of steam pump	100 00
	16.	J. W. Whalen, inspector	270 00
	18.	Bangs & Gaynor, cement	148 00
Mch.	18.	S. Mahan, pay-roll	279 00
	16.	S. K. Griswold, salt	9 90
	16.	Wood & Hotchkiss, pump	7 50
	13.	W. D. Davis, pump	3 50
	11.	M. Gilligan, stone	24 75
	11.	Jerry Adams, stone	15 75
	16.	Whitehall Coal Co., coal	15 00
	11.	W. F. Allen, common labor	22 95
	10.	W. D. Butts, timekeeper	34 00
April	10.	S. Mahan, pay-roll	18 80
	10.	W. B. Waters, rent of scales	18 55
	10.	Whitehall Lumber Co., lumber	66 85
	10.	E. Coney, sharpening picks	6 40
May	20.	S. Mahan, pay-roll	105 65
	20.	S. Mahan, pay-roll	322 75
	20.	S. Mahan, pay-roll	184 25
	20.	S. Mahan, pay-roll	276 50
	20.	S. Mahan, pay-roll	111 00
	19.	Whitehall Lumber Co., lumber	159 38
	19.	Miner & Manville, lumber	39 60
	8.	W. D. Butts, timekeeper	52 00
	19.	W. U. Tel. Co., telegrams	1 76
	19.	Wood & Hotchkiss, hardware	22 60
	20.	Corning & Co., boat spike	12 88
	20.	S. Mahan, pay-roll	56 95
	21.	S. Mahan, pay-roll	39 95
	11.	W. D. Butts, measuring stone	16 00
June	22.	S. Mahan, pay-roll	200 00
	10.	D. & H. C. Co., freight	65
	10.	Burleigh & Bro., use of lighter	24 00
	10.	Jno. Rourke, lumber	30 00
	10.	P. H. Corbett, timekeeper	20 00
	13	Whitehall Lumber Co., lumber	27 45
	18.	John Lyon, snubbing posts	31 50
	19.	Wood & Hotchkiss, hardware	3 86
	22.	C. H. Latrace, blacksmithing	5 50
	22.	E. Conroy, blacksmithing	2 07
	22.	E. Blin, carting	1 00
			$10,062 63

Building new Tow-path and change Bridges at Lock 20.

1884.			
Oct.	6.	P. H. Corkett and others, pay-roll	$422 62
	6.	Jno. Carmody and others, pay-roll	241 12
	6.	Geo. N. Waters and others, pay-roll	133 50
	3.	Henry Waters, use of scow	36 00
	7.	Lyman Holbrook, bridge irons	12 00
Nov.	15.	John Cummins, stone cutting	22 50
	7.	D. O. Briggs, stone	100 00
	3.	Aaron White, stone	100 00
	5.	Thos. McClusky, use of boat	25 00
	3.	P. H. Corbett, time keeper	25 00
	20.	N. Y. & L. C. Trans. Co., repairing derrick	1 00
	20.	M. Walsh, carpenter	15 75
	21.	S. Mahan, pay-roll, October	436 75
	21.	S. Mahan, pay-roll, October	163 00
	20.	W. U. Tel. Co., telegrams	2 66
	21.	W. B. Waters, timber and hardware	201 08
	25.	D. O. Briggs, stone	166 00
Dec.	4.	J. M. Canady, pay-roll, November	336 00
	4.	R. Johnson, weighing stone	1 50
	4.	M. D. Kelsey, blacksmithing	36 00
	4.	S. R. Miller, powder	3 00
	4.	E. E. Sexton, blacksmithing	38 60
	10.	P. H. Corbett, time keeper	12 00
	15.	Aaron White, stone	43 20
	15.	Silas Graves, blacksmithing	8 45
	16.	R. H. Cook, cement	24 00
	31.	Whitehall Lumber Co., lumber	32 64
1885.			
Jan.	31.	S. Mahan, superintendent, pay-roll	472 45
	31.	S. Mahan, superintendent, pay-roll	152 75
	31.	S. Mahan, superintendent, pay-roll	65 20
	19.	Daniel White, stone	3 75
	15.	Whitehall Lumber Co., lumber	57 23
	17.	O. W. Sheldon, timber	76 20
	13.	W. D. Butts, time keeper	30 00
	16.	S. K. Griswold, salt	9 00
	17.	Wood & Hotchkiss, tools and hardware	17 07
	15.	W. D. Travis, tools	75
	15.	S. Mahan, pay-roll	182 45
	15.	Wood & Hotchkiss, tools	95
March	18.	S. Mahan, pay-roll	33 25
June	29.	B. Cavanagh, labor	6 00
	29.	Chas. Bromley, team labor	12 00
March	10.	W. D. Butts, time keeper	14 00

1885.			
March	12.	R. H. Cook, cement	$110 00
April	10.	S. Mahan, pay-roll	33 00
	10.	S Mahan, pay-roll	174 35
	10.	W. D. Butts, measuring stone and timber,	52 00
	10.	G. W. Waters, foreman, carpenter	67 50
	10.	P. H. Hoey, carpenter	30 37
	10.	Jno. Davy, team labor	20 00
	10.	W. B. Eddy, telegrams	2 96
	10.	S. K. Griswold, salt	2 10
	10.	W. B. Waters, cutting and making bolts	25 60
May	20.	S. Mahan, pay-roll	178 40
	20.	S. Mahan, pay-roll	89 50
	20.	John Davy, team labor	40 00
	19.	O. A. Manville, paint and oil	58 80
	20.	S. Mahan, pay-roll	158 35
	20.	S. Mahan, pay-roll	22 75
June	22.	S. Mahan, pay-roll	89 00
	10.	P. H. Corbett, time keeper	8 00
	18.	John Davy, use of team	40 00
	19.	John Lyon, snubbing posts	7 50
	17.	G. A. Kingsley, stone	15 00
			$4,997 30

Strengthening berme bank three-fourths of a mile north of Moses-Kill lock.

1884.			
Oct.	13.	R. B. Sherrill, general foreman	$30 00
	17.	F. Week, damage to house and lot	15 00
	17.	S. W. Russell, lumber	25 00
	20.	Caleb Wells and others, pay-roll, September	368 25
	20.	C. E. Morey and others, pay-roll, September	387 00
	20.	L. Vanderwerker and others, pay-roll, September and October	246 75
	20.	W. D. Sherrill and others, pay-roll, September	120 00
Dec.	13.	C. Dickens, use of boat	226 67
	24.	C. E. Morey and others, pay-roll, October.	569 40
			$1,988 07

Rebuilding first Bridge above Lock 14.

1885.			
Mch.	9.	Morrell & Bernap, lumber	$341 53

1885.			
Mch.	11.	John Quinn, carpenter labor	$43 00
	11.	William Morrison, blacksmith	42 00
	11.	John Gilligan, team labor	18 90
	14.	A. Weatherwax, bridge steps	77 88
	19.	D. & H. Canal Co., freight	25 50
	23.	Corning & Co., hardware	196 56
	23.	Corning & Co., hardware	23 32
April	1.	Jno. J. Cunningham, salary and expenses	118 72
	4.	M. F. Doyle and others, pay-roll	103 65
			$991 65

Rebuilding Bridge, etc, over channel to Waste-weir, Lock 12.

1884.			
Oct.	20.	L. Vanderwerker and others, pay-roll	$192 50

Rebuilding Bridge No. 96.

1884.			
Nov.	22.	George Sherrill, nails	$5 60
	22.	Graham & Rivers, bolts	69 10
	22.	Kenyon & Baldwin, sawing timber	18 08
	22.	Alex. Burke, bolts	49 96
	22.	S. W. Russell, planks	30 00
	24.	M. F. Doyle and others, pay-roll	114 00
			$286 74

Strengthening berme bank between Bridges 102 *and* 103.

Dec.	24.	C. E. Morey and others, pay-roll	$598 00

Strengthening berme bank between Bridges 93 *and* 94.

Dec.	24.	C. E. Morey and others, pay-roll	$218 00

Rebuilding Eastman's Waste-weir.

1885.			
Jan.	7.	Sandy Hill Quarry Co., stone	$313 50

Improving eleven chains of canal at Woodchuck Point.

1884.			
Dec.	3.	D. O. Briggs, pay-roll	$177 50
	15.	Aaron White, stone	448 00

1885.			
Aug.	7.	S. Mahan, pay-roll	$231 00
July	27.	T. J. Robinson, foreman, mason	15 00
Sept.	1.	S. Mahan, pay-roll	450 00
			$1, 321 50

Improving eleven chains of canal between bridges 140 *and* 141.

1884.			
Nov.	14.	Henry Waters, labor	$31 75
	15.	John Read, labor	58 00
	21.	S. Mahan, pay-roll, October	383 50
	21.	S. Mahan, pay-roll, November	103 50
	25.	D. O. Briggs, stone	169 50
Dec.	10.	P. H. Corbett, time keeper	12 00
1885.			
Jan.	1.	S. Mahan superintendent, pay roll	163 35
	1.	S. Mahan superintendent, pay roll	43 50
	31.	S. Mahan superintendent, pay roll	172 50
	31.	S. Mahan superintendent, pay roll	114 50
	17.	Corning & C., wheelbarrows	20 75
	16.	Miner & Manville, lumber	39 25
	15.	Whitehall Lumber Co., lumber	30 27
	13.	W. D. Butts, time keeper	12 00
	17.	Wood & Hotchkiss, hardware and tools	23 20
	15.	W. D. Travis, hardware and tools	13 00
Feb.	17.	S. Mahan, pay-roll	220 45
	17.	S. Mahan, pay-roll	197 95
	16.	Wood & Hotchkiss, tools	4 34
Mch.	18.	S. Mahan, pay-roll	309 45
	18.	S. Mahan, pay-roll	63 30
	18.	S. Mahan, pay-roll	163 20
	11.	P. H. Corbett, measuring stone	34 00
	16.	Wood & Hotchkiss, tools	1 87
	17.	Brett & Bartholomew, stone	112 50
May	20.	S. Mahan, pay-roll	445 80
	20.	S. Mahan, pay-roll	204 05
	20.	S. Mahan, pay-roll	117 60
	20.	R.H. Cook, cement	110 00
	20.	S. Mahan, pay-roll	111 00
	20.	S. Mahan, pay-roll	66 60
June	22.	S. Mahan, pay-roll	98 00
	22.	P. H. Corbett, time keeper	8 00
	13.	Jno. Brett, brooms	90
	13.	M. D. Johnson, storing cement	3 00
	22.	P. H. Green, cartage	1 75
			$3, 664 33

Improving banks, etc., south of Fort Miller lock.

1885.			
Feb.	12.	Geo. Keith and others, pay-roll	$207 13
	12.	C. Farenoff, blacksmithing.............	11 40
	12.	Henry Wait, blacksmithing.............	5 71
	13.	Newton & Partridge, hardware.........	68 64
Mch.	12.	John Wagman, coal....................	2 22
	12.	R. H. Van Buskirk, blasting tubes.......	4 80
	12.	R. H. Van Buskirk, blasting tubes.......	1 08
	12.	C. Faneuff, blacksmithing..............	22 80
	12.	Henry Wait, blacksmithing.............	4 83
	12.	Henry Wait, blacksmithing.............	80
	14.	Geo. Keith and others, pay-roll	639 35
	19.	Newton & Partridge, hardware and powder	23 50
	20.	Kenyon & Baldwin, lumber	9 81
	20.	Glens Falls Co., powder	15 00
	20.	John Cunningham, team labor..........	23 20
May	20.	J. E. Vanderwerker and others, pay-roll..	203 13
	20.	W. R. DeGarmo & Son, hardware	1 02
	20.	R. H. Van Buskirk, blasting tubes.......	5 30
	20.	Henry Wait, blacksmithing.............	6 53
	26.	Newton & Partridge, powder, etc	9 20
			$1,265 45

Widening and improving prism of four chains of Canal at Bridge 94.

1885.			
Mch.	9.	Jno. J. Cunningham, salary as special agent.	$105 80
	12.	C. Faneuff, blacksmithing..............	15 00
	12.	W. R. DeGarmo & Son, general mdse...	5 33
	14.	Geo. Keith and others, pay-roll..........	225 05
May	16.	Jno. F. Clark and others, pay-roll.	64 00
			$415 18

Widening Canal between Division and Broad Streets Waterford.

1884.			
Oct.	10.	A. N. Gregg, clay......................	$52 50
	10.	Mohawk & Hudson Mfg. Co., repairs to tools and etc.........................	91 24
	13.	C. H. Vanderwerker and others, pay-roll, September	116 85
	13.	C. H. Vanderwreker and others, pay roll, August............................	139 37

1884.				
Oct.	13.	R. E. Tabor and others, pay-roll, August	$29	00
	13.	R. E. Tabor and others, pay-roll, September	49	10
Dec.	4.	C. H. Vanderwerker and others, pay-roll, October	70	13
	22.	C. H. Vanderwerker and others, pay-roll, November	320	85
1885.				
Jan.	7.	C. H. Vanderwerker and others, pay-roll, December	187	95
			$1,056	99

Strengthening pier of Troy Dam.

1884.				
Oct.	4.	D. H. Lewis and others, pay-roll, September	$945	85
	6.	C. Vanderwerker, common labor	20	10
	13.	D. H. Lewis and others, pay-roll, October.	431	45
	13.	T. McNamara, common labor	12	75
	16.	Wm. Burton's Sons, sawing timber	54	15
	16.	Geo. Cooley, towing	4	00
	16.	A. McChesney, towing	14	00
	16.	T. H. Bowditch, blacksmithing	12	15
	16.	Wm. McCune, blacksmithing	3	80
	21.	H. Green's Son & Co., iron and tools	176	76
Nov.	23.	H. G. Burleigh & Bro., pine timber	1,565	87
	7.	Sandy Hill Quarry Co., stone	1,692	65
	7.	Sandy Hill Quarry Co., stone	52	00
			$4,985	83

Rebuilding abutment at mouth of Glens Falls Feeder

1885.				
Mch.	19.	Jno. F. Clark and others, pay-roll	$194	65
	19.	Kinne & Washburn, cement	3	00
	20.	Kenyon & Baldwin, cement	10	50
	30.	Buck & Duers, stone	101	75
May	16.	D. Sturtevant and others, pay roll	94	55
	23.	Walrath & Larkin, blacksmithing	13	25
	26.	Geo. Evans, labor	3	00
	26.	N. B. Sherrill, labor	3	00
	26.	R. B. Sherrill, team labor	14	00
	16.	Henry Baker, labor	4	50
			$442	20

Strengthening seven and one-third chains berme bank at Mechanicville.

1884.			
Dec.	2.	Charles H. Rice, sand	$11 00
	2.	H. S. Miller, hardware	3 60
	2.	Robert Moore & Son, cement, etc	38 14
	3.	John McKenzie, express charges	2 70
	7.	B. E. Tabor and others, pay-roll	8 90
	7.	John McKenzie and others, pay-roll	235 08
	15.	D. & H. Canal Co., freight	25 17
	20.	R. B. Wing, rope, blocks, etc	131 91
	31.	DeForest Bros., salt	10 28
	31.	Madison Hart, sand	63 00
1885.			
Jan.	2.	J. McKenzie and others, pay-roll	923 00
	7.	Robert Moore & Son, lumber	60 45
	7.	H. S. Miller, hardware	5 42
	7.	J. Dodd, blacksmithing	5 70
	7.	John McKenzie, freight	25 17
Feb.	2.	Sandy Hill Quarry Company, stone	1,613 85
Jan.	30.	Madison Hart, sand	35 00
	30.	H. S. Miller, broom and twine	77
	31.	W. S. Miller, cement	8 40
	31.	De Forest Bros., salt	4 50
Feb.	4.	J. McKenzie, freight	23 30
	4.	Frank Short and others, pay-roll	481 42
	12.	Robert Moore & Son, cement	7 00
	18.	Bangs & Gaynor, cement	74 00
	18.	Bangs & Gaynor, cement	148 00
			$3,945 76

Improving eleven and one-half chains Glens Falls Feeder, at Glens Falls.

1884.			
Dec.	11.	D. & H. Canal Co., freight	$35 02
	29.	D. & H. Canal Co., freight	2 39
1885.			
Jan.	8.	DeLong & Son, hardware	54 85
	8.	D. Peck & Bro., general merchandise	10 35
	8.	D. H. Lewis, foreman	84 00
	8.	Thomas Reynolds, powder, etc	45 69
	13.	George Corey and others, pay roll	1,635 60
	5.	D. & H. Canal Co., freight on cement	35 02
	15.	W. U. Tel. Co., telegrams	1 67
	15.	D. & H. Canal Co., freight on cement	35 04
	22.	Michael Ryan, labor	12 90
	22.	D. & H. Canal Co., freight on cement	35 04

1885.			
Jan.	26.	Cashion Bros., blacksmithing	$30 46
	26.	Glens Falls Trans. Co., salt.............	6 50
	26.	Abel Cobin, blacksmithing.......... ..	26 42
	26.	Daniel Peck & Bro., cement, etc	136 15
	26.	DeLong & Sons, hardware	8 46
	29.	D. H. Lewis, special foreman...........	92 00
	30.	Glens Falls Company, sand, cement, etc ..	181 68
	30.	George Corey and others, pay-roll	1,841 85
Feb.	3.	R. B. Sherrill, labor......................	6 09
	4.	John J. Cunningham, foreman..........	117 94
	17.	Kenyon & Baldwin, cement	18 00
	18.	Glens Falls Company, lumber...........	28 10
	18.	W. U. Tel. Co., telegrams..............	1 46
	18.	J. L. & S. B. Dix, iron, etc	5 74
	18.	Bangs & Gaynor, cement	148 00
	18.	Bangs & Gaynor, cement	148 00
March	12.	J. Van Deusen, lumber	5 64
	20.	John McGee, labor............	5 40
May	13.	D. Sturtevant and others, pay-roll........	448 50
	19.	M. H. Bradt & Co., cement	105 00
	26.	P. Behan, labor.........................	3 00
			$5,351 85

Protecting berme bank between Division and Broad Streets, Waterford.

1884.			
Dec.	22.	C. H. Vanderwerker and others, pay-roll..	$22 31
	23.	J. Halpin, blacksmithing.............. .	1 73
	26.	W. Burton's Son, sawing	10 05
	27.	H. Green's Son & Co., spikes...........	5 35
1885.			
Jan.	9.	Shear & Dunsback, stone	142 42
1884.			
Nov.	29.	Sandy Hill Quarry Co., stone...........	106 00
1885.			
Feb.	2.	Sandy Hill Quarry Co., stone	35 20
March	14.	James Halpin, blacksmithing...........	5 81
	14.	McKellar & Co., lumber.....	6 79
	16.	W. E. Cheney & Son, cement...........	34 50
			$370 16

Lengthening Lander's Culvert, etc.

1884.			
Nov.	26.	D. & H. Canal Co., freight on cement....	$33 18
Dec.	15.	C. Wells and others, pay-roll	86 50

1884.			
Dec.	15.	J. Morris and others, pay-roll	$365 35
	22.	Kinnie & Washburn, cement	12 00
	22.	George Sherrill, tools	32 24
	22.	Kenyon & Baldwin, lumber	22 09
	31.	D. & H. Canal Co., freight	33 18
1885.			
Jan.	9.	Montgomery Bros., cement	21 45
	13.	Kenyon & Baldwin, lumber and team labor,	59 70
	15.	Jno. Morris and others, pay-roll	1,177 38
1884.			
Dec.	13.	D. & H. Canal Co., freight	3 26
1885.			
Jan.	31.	Kinnie & Washburn, salt	4 00
	31.	James Mickle, blacksmithing	2 25
	31.	Ganley Bros., salt, etc	4 79
	31.	W. H. Mathews, hardware	5 70
	31.	Harvey Kingsley, blacksmithing	7 77
	31.	John B. Lander, slate	7 50
	31.	Newton & Partridge, hardware	2 60
Feb.	2.	Jno. Morris and others, pay-roll	662 40
	3.	R. B. Sherrill, services paying men	4 00
	12.	Corning & Co., tools	70 35
	16.	Sandy Hill Quarry Co., stone	1,415 22
	18.	Bangs & Gaynor, cement	148 00
May	16.	Jno. F. Clark and others, pay-roll	105 75
			$4,286 66

Rebuilding Empies Waste Weir.

1884.			
Nov.	5.	Thos. McClusky, use of boat	$25 00
	20.	M. Walsh, carpenter	18 00
	18.	Geo. B. Mills, use of horse	6 00
Dec.	18.	Aaron White, stone	140 00
	18.	J. S. Hubbell, horse hire	2 50
	16.	R. H. Cook, cement	220 00
	31.	Whitehall Lumber Co., timber	195 73
1885.			
Jan.	16.	J. H. Lyon, timber	135 00
	31.	S. Mahan, superintendent, pay-roll	235 50
	13.	P. H. Corbett, railroad fare	2 85
	17.	Jno. L. Yates, time-keeper	56 00
	17.	O. W. Sheldon, lumber	21 96
	16.	W. U. Tel. Co., telegrams	3 60
Feb.	17.	S. Mahan, pay-roll	302 60
	17.	S. Mahan, pay-roll	157 40
	11.	Jno. L. Yates, time-keeper	94 50

1885.			
Feb.	16.	J. H. Sullivan, rope	$18 45
	16.	Finch & Co., salt	5 55
	16.	E. E. Sexton, blacksmithing	4 59
	16.	E. E. Sexton, blacksmithing	14 97
	16.	H. C. Clements & Co., salt	9 50
	14.	Van Schaidck & Daly, stone	855 00
March	16.	W. U. Tel. Co., telegrams	3 55
	19.	S. Mahan, pay-roll	85 05
	18.	S. Mahan, pay-roll	155 40
	11.	J. L. Yates, time-keeper	31 50
	13.	E. A. Lewis, hardware	15 10
Feb.	20.	National Express Co., freight	1 20
March	23.	Jas. McGec, salt	5 28
	13.	Finch & Co., salt	8 50
	13.	J. B. Barnum, filing saws	50
	13.	E. H. Sturtevant, stone-boats	2 93
	16.	W. V. Tel. Co., telegrams	2 16
April	10.	J. H. Gannon, lumber	4 55
	10.	J. H. Noonan, team labor	4 00
May	20.	S. Mahan, pay-roll	101 00
	20.	F. F. Reynolds, livery	2 00
	18.	E. E. Sexton, blacksmithing	18 60
June	22.	S. Mahan, pay-roll	28 50
	12.	Sheldon & Gannon, lumber	15 13
	13.	D. O. Briggs, lime	50
			$3,010 15

Improvement Champlain Canal.

1884.			
Oct.	1.	Whitehall Times, publishing notice to contractors	$2 25
	3.	Ballston Democrat, publishing notice to contractors	2 63
	3.	Albany Argus, publishing notice to contractors	21 00
	4.	Sandy Hill Herald, publishing notice to contractors	2 25
	7.	Albany Times, publishing notice to contractors	21 00
	9.	The Saratogian, publishing notice to contractors	2 63
1885.			
Jan.	28.	Glens Falls Republican, publishing notice to contractors	2 25
	28.	Albany Argus, publishing notice to contractors	18 38

1885.				
Jan.	26.	Ballston Democrat, publishing notice to contractors		$2 25
	26.	Sandy Hill Herald, publishing notice to contractors		2 25
	26.	Saratoga Sun, publishing notice to contractors		2 25
				$79 14
		Total improvement Champlain canal		$121, 001 75

CHAMPLAIN CANAL DAMAGES.

Awards of Canal Appraisers.

1884.				
Dec.	13.	Gad H. Lee and James H. Shine, Waterford, Saratoga county	$324 00	
1885.				
July	24.	N. B. Milliman, Fort Edward, Washington county	1, 150 00	
				$1, 474 00

Awards of Board of Claims.

1884.				
Dec.	24.	Gad H. Lee and James H. Shine, Waterford, Saratoga county	$2, 750 00	
1885.				
Jan.	12.	David F. Lamb, Waterford, Saratoga county	3, 000 00	
	12.	Edward G. Munson, Waterford, Saratoga county	1, 000 00	
July	2.	Martha A. Sweet, Cohoes, Albany county	325 00	
	21.	Sarah H. Teel, Stillwater, Saratoga county	240 00	
	27.	Elizabeth Marcius, Stillwater, Saratoga county	200 00	
	31.	Lawrence Morrisey, Stillwater, Saratoga county	150 00	
	31.	Jacob L. Vandenberg, Stillwater, Saratoga county	150 00	
	31.	Jeremiah Brown as Committee of Ellen Maloy, Stillwater, Saratoga county	110 00	
				$7, 925 00
				$9, 399 00

Recapitulation Champlain Canal.

Ordinary repairs	$11,621 01	
Improvement, Champlain	121,001 75	
Damages, Champlain	9,399 00	
		$142,021 76

(D.)

BLACK RIVER CANAL.

Section No. 1.

1884.			
Nov.	1.	J. E. Allen, blacksmithing, Delta dam	$14 78
	1.	N. Bellinger, stone, Delta dam	45 00
	1.	Clarke & Barber, hardware, etc., Delta dam.	2 57
	1.	D. Bellinger, lumber, Delta dam	3 12
	1.	E. A. Watsworth, lumber, Delta dam	37 75
	1.	G. B. Porter and others, pay-roll, Delta dam	198 25
	1.	G. B. Porter and others, pay-roll, Delta dam	282 00
	5.	Crane, Belden & Co., pine	1,190 55
	3.	Louis Seiter, team labor	10 50
	7.	J. C. McGuire, blacksmithing	4 75
	7.	N. Y. C. & H. R. R. Co., freight	2 88
	8.	J. D. Vail, sand, etc	9 68
	14.	Grant & Dunn, spike	50 50
	15.	G. W. Wentworth, brick	5 00
	15.	Delos Cramer, blacksmithing	19 75
	15.	Denton & Waterbury, lumber	71 25
	17.	Peter Free, common labor	16 50
	17.	E. Sherman, team	49 00
	17.	Martin Smith, lumber	4 00
	17.	C. W. Colton, hardware	50 63
	20.	Wardwell Bros., hardware	15 99
	22.	John Sherman, common labor	21 00
	22.	Robert Short, common labor	9 00
	22.	Goodale & Johnson, lumber	49 53
	22.	Grosjean & Co., lumber	19 99
	22.	John Reinholder, lumber	143 62
	22.	Blasier & Waldo, piles	80 80
	24.	John Ohley, tending White Lake	2 00
	29.	J. G. Greens, blacksmithing	1 75
Dec.	1.	E. Dillenbeck, chain	1 56
	8.	A. Filsinger, bridge castings	7 44
	11.	F. P. Phillips, freight	60
	11.	F. J. Seiter, spruce lumber	4 50
	12.	Delos Cramer, blacksmithing	14 50
	12.	Grosjean & Co., pine lumber	16 00
	12.	O. J. Grant, sand	4 00

1885.			
Dec.	12.	C. W. Colton, hardware	$29 77
	12.	C. F Rice, lock-house windows	2 40
	12.	S. W. Ferguson, repairs, scow	5 64
	12.	George Draper, bolts	23 21
	30.	H. H. Walsworth, sand	8 00
	30.	J. McIntosh, blacksmithing	4 00
	30.	John Reinhuber, lumber	18 06
1885.			
Jan.	8.	W. U. Tel. Co., telegrams	11 00
	8.	C. W. Colton, hardware	10 05
	3.	Delos Cramer, blacksmithing	11 75
	9.	James Johnson, freight	35 00
	19.	W. U. Tel. Co., telegrams	3 41
Feb.	5.	O. W. Sage, sash	1 50
	5.	Jos. Higgins, blacksmithing	6 50
Mch.	2.	Alexander, B., & Co., pile points, etc	39 47
	3.	Mack, Dunn & Co., bolts	11 31
	11.	George Draper, bolts	123 00
	4.	James Richards, pike poles	5 50
April	1.	U. & B. R. R. R. Co., freight	7 00
	4.	U. & B. R. R. R. C., freight	10 75
	4.	Mack, Dunn & Co., canal barrows	58 33
	4.	S. Rosenbloom & Son, rubber boots	9 00
	17.	U. & B. R. R. R. Co., freight	6 45
May	5.	Mack, Dunn & Co., canal barrows	35 50
	11.	H. Paddock and others, pay-roll	100 50
	12.	U. & B. R. R. R. Co., freight	1 30
	14.	C. W. Collier, hardware	35 49
	14.	Goodale & Johnson, lumber	19 41
	14.	W. J. Tolan, lumber	97 75
	14.	Central N. Y. Tel. Co., use of telephone	60 00
	16.	E. Dillenbeck, axe, etc	2 80
	16.	D. & E. Rees, blacksmithing	2 60
	19.	Delos Cramer, blacksmithing	79 45
	22.	Wardwell Bros. & Co., hardware	12 00
	26.	Robert Thorp, freight	12 00
	27.	Gilbert & Sawyer, lock valves	30 20
	28.	Daniel O'Connell, stone	9 66
June	5.	George Draper, bolts	24 00
	1.	E. A. Walsworth, lumber	24 62
	1.	A. J. Bellinger, blacksmithing	7 80
	5.	Charles Brown, watchman	15 00
	5.	M. Seiler and others, pay-roll	118 50
	5.	W. L. Darling, team work	12 25
	8.	U. & B. R. R. R. Co., freight	95
	18.	John Yerdon, lumber	78
July	11.	G. V. Selden, lumber	31 15
	13.	M. Seiler and others, pay-roll	583 75

1885.			
July	13.	Thomas Finnegan, mason	$60 00
	13.	C. W. Colton, hardware	23 75
	13.	C. W. Colton, hardware	47 00
	13.	D. H. Heck, livery	15 00
	13.	D. A. Talcott, team work	10 50
	14.	Charles Brown, watchman	45 00
	14.	Charles Kilkenny, watchman	12 00
	14.	H. T. Dayton, telegrams	1 29
	14.	R. B. Crosby, telegrams	6 26
	14.	Gilbert & Towery, valves	12 10
	14.	Moran & King, blacksmithing	10 60
	14.	Delos Cramer. blacksmithing	44 50
	14.	Delos Cramer, blacksmithing	55 75
	14.	Goodale & Johnson, lumber	8 08
	14.	F. J. Seiler, lumber	32 62
	14.	Denton & Waterbury, lumber	91 55
	14.	Denton & Waterbury, lumber	25 26
	14.	Martin Smith, lumber	347 88
	14.	John Reinhuber, lumber	33 46
	14.	John G. Grema, blacksmithing	1 50
	14.	Luke Jones and others, pay-roll	258 25
Aug.	1.	Charles Kilkeny, horse hire	10 00
	1.	Frank Clancy, team labor	17 50
	5.	Thomas Perkins, common labor	16 50
	5.	Joseph Higgins, blacksmithing	10 30
	19.	Delos Cramer, blacksmithing	25 30
	19.	Charles F. Rice, pins for lock gates	8 82
	19.	C. W. Colton, hardware	80 71
	19.	U. & B. R. R. Co, freight	2 04
	19.	Charles Brown, watchman	46 50
	19.	E. Sherman and others, pay roll	98 09
	19.	T. McCann and others, pay-roll	256 25
	20.	Moran & King, blacksmithing	3 37
	20.	John Grimes, blacksmithing	1 75
	20.	C. Cunningham, cutting brush	30 00
	24.	R. W. & O. R. R. Co., transfer of timber.	1 00
	24.	N. Y. C. & H. R. R. Co., freight on timber	73 00
	24.	E. A. Walsworth, lumber	36 84
Sep.	1.	D. H. Peck, horse hire	10 00
	1.	Charles Brown, night watch	46 50
	2.	Alfred Waldo, cutting brush	5 25
	3.	Seymour Jones, lumber	16 00
	3.	S. M. Ferguson, repairs, scow	42 62
	3.	Patrick O'Connor, blacksmithing	75
	3.	A. J. Bellinger, blacksmithing	1 95
	3.	J. E. Allen, blacksmithing	4 20
	4.	Delos Cramer, blacksmithing	16 15

1885.				
Sep.	4.	C. W. Colton, hardware	$18	13
	5.	W. Johnson, lumber	119	36
	5.	J. M. Whipple, repairs, bridge	77	72
	7.	G. V. Selden, lumber	9	35
	7.	Denton & Waterbury, lumber	134	53
	7.	Wardwell Bros. & Co., nails	2	67
	9.	John G. Green, blacksmithing	3	25
	9.	W. J. Hubbard, mason	5	00
	11.	Alexander B. & Co., patterns	36	95
	23.	W. U. Tel. Co., telegrams	3	57
	23.	Gilbert & Sawyer, castings	11	53
	23.	P. McGuire, timber	64	50
	23.	Denton & Waterbury, lumber	265	05
	23.	Denton & Waterbury, lumber	18	12
	24.	F. J. Seiler, lumber	22	73
	24.	C. W. Colton, hardware	13	02
	24.	Delos Cramer, blacksmithing	55	90
	24.	C. F. Rice, lock gate pins	8	06
	24.	R. B. Crosby, telegrams	6	52
	24.	Charles Brown, night watchman	28	50
	25.	Charles Kilkeny, team	5	00
	26.	J. Gremo, Jr., blacksmithing	2	13
	26.	A. J. Bellinger, blacksmithing		75
	26.	S. Jones, lumber	10	64
	26.	A. M. Haynes and others, pay-roll	115	00
	26.	Luke Jones and others, pay-roll	227	50
	30.	R. W. & O. R. R. Co., trans. freight	3	00
Oct.	2.	Crane, Belden & Co., lumber	439	97
	1.	Joseph Higgins, blacksmithing		50
	1.	Wardwell Bros. & Co., nails	7	10
	1.	John Reinhuber, lumber	5	65
	1.	E. A. Walsworth, lumber	12	67
	3.	Willard Johnson, lumber	805	04
			$8,762	43

Section No. 2.

1884.				
Nov.	21.	American Express Co., transportation	$1	40
	21.	G. N. W. Telegraph Co., telegrams	8	88
	21.	G. H. P. Gould, lumber	86	20
	21.	J. S. Normandie, lumber	15	00
	21.	J. E. Strickland, hardware	8	18
	21.	C. L. Frederick, lard and oil	7	70
	21.	Ryther & Prindler, blacksmithing	70	62
	22.	Delos Cramer, blacksmithing	6	50

1884.				
Nov.	22.	Crane, Belden & Co., lumber	$79	03
	21.	R. Willis, common labor	3	75
	21.	S. F. Gorman and others, pay-roll	440	60
	24.	Empire Steam Co., bolts, etc	8	81
	28.	M. W. Van Amber, lumber	31	20
Dec.	1.	H. Van Amber, lumber, etc	31	00
Nov.	24.	S. S. Snell and others, pay-roll	274	30
	26.	George Coe, labor	4	35
Dec.	2.	John Studer, blacksmithing	30	16
	3.	M. J. Dempsey, blacksmithing	19	15
	4.	S. S. Snell and others, pay-roll	50	45
	12.	F. A. Barrett, blacksmithing	2	00
	12.	L. W. Riggs, hardware	11	07
Oct.	2.	F. W. Davis, services as clerk	100	00
Dec.	12.	American Express Co., transportation	1	60
	12.	C. W. Colton, nails	1	13
	13.	L. H. Mills, towing boats	30	00
	15.	J. Jones, repairs, scow	4	53
	16.	John S. Studer, lumber	5	77
	20.	G. H. P. Gould, lumber	3	00
1885.				
Jan.	8.	James Hyland, lumber	3	84
Feb.	5	Doig Brothers, oil, etc	21	18
	5.	L. A. Bostwick, lumber	39	40
	7.	Telephone Co., telephone messages	3	12
	12.	J. B. Basselin, towing dredge	35	00
May	29.	John Ash, ladder	4	00
	30.	James Hyland, lumber	36	49
June	2.	Alfred Willis, freight	15	00
	2.	Coe & Lewis, cleats	4	94
	2.	John Studer, care of dredge	25	00
	2.	Somers & Sawyer, lumber	36	14
	2.	Hoyt & Briggs, hardware	14	77
	5.	Goodale & Johnson, lumber	96	86
	5.	C. W. Colton, hardware	6	41
July	13.	C. W. Colton, lumber	113	33
	14.	F. Grillaume, mason	51	25
	14.	F. Lawrence, labor	2	50
	14.	W. U. Tel. Co., telegrams	2	00
	14.	Delos Cramer, blacksmithing	2	00
	14.	Goodale & Johnson, lumber	42	69
	15.	J. H. Wilco[illegible] lumber	12	54
	15.	G. H. P. Gould, lumber	26	76

1885.			
July	15.	G. H. P. Gould, lumber	$21 93
	15.	J. B. Basselin, lumber	183 60
	15.	Hoyt & Briggs, rope and hardware	14 57
	15.	Hoyt & Briggs, rope and paint	21 67
	15.	Doig Bros., oil, tallow, etc	14 98
	15.	J. P. Owens, hardware	4 93
	15.	M. J. Dempsey, blacksmithing	61 00
	15.	M. J. Dempsey, blacksmithing	45 17
	15.	J. Irons, repairs, wood boat	16 49
	15.	Jno. Studer, blacksmithing	13 61
	15.	Jas. Jordon, blacksmithing	1 24
	15.	M. Maxwell, labor	7 50
	15.	John Donley, labor	19 25
	15.	O. Bush, labor	3 00
	15.	G. N. W. Tel. Co., telegrams	4 39
	15.	G. N. W. Tel. Co., telegrams	1 79
	15.	Empire steam pump Co., repairs dredge	199 35
	31.	A. A. Dekin, blacksmithing	1 15
Aug.	17.	G. N. W. Tel. Co., telegrams	4 00
	17.	Am. Ex. Co., freight	1 00
	17.	U. & B. R. R. R. Co., freight	1 88
	17.	C. C. Ingraham, team labor	8 00
	18.	M. J. Dempsey, blacksmithing	19 46
	18.	Hoyt & Riggs, hardware	15 90
	18.	G. H. P. Gould, lumber	14 38
Sept.	5.	Mack, Dunn & Co., hardware	22 84
	12.	Crane, Belden & Co., lumber	1,113 56
	12.	Adam Filsinger, drift bolts	30 00
	14.	Empire Pump Co., japan for dredge	7 35
	15.	Ryther & Pringle, repairs, dredge	27 39
	15.	C. N. Y. Tel. Co., messages	2 59
	16.	M. J. Dempsey, blacksmithing	33 28
	16.	Hoyt & Riggs, hardware	13 00
	16.	Somers & Sawyer, lumber	12 04
	16.	G. W. Wentworth, brick	4 50
	16.	John Studer, joints for dredge	5 46
	16.	L. A. Bostwick, wood for dredge	78 75
	17.	L. B. Parker, wood for dredge	6 00
	17.	C. C. Richter, repairs to steam pipe	3 00
	17.	G. H. P. Gould, lumber	16 20
	17.	Doig Bros., repairs, dredge	16 40
	17.	C. Elliott, diving	5 00
	19.	T. B. Brasselin, lumber	113 26
	21.	Ralph Beach, lumber	109 95
	21.	Lowville M'f'g. Co., lumber	31 76
	21.	N. Tabalt, blacksmithing	14 45
	21.	M. A. Stoddard, nails	2 50

1885.			
Sept.	21.	Doig Bros., brushes	$1 75
	21.	F. J. Chapman, hardware	12 90
	21.	Geo, Dinehart and others, pay-roll	372 45
	30.	T. B. Basselin, towing dredge and scow	185 00
Oct.	2.	J. P. Owens, hardware	4 75
	2.	M. J. Dempsey, blacksmithing	5 50
	2.	G. W. Beach, lumber	2 28
	3.	J. Irons, repairs, scow	3 13
	3.	M. A. Stoddard, hardware	2 84
	3.	H. J. Lewis, cedar posts	75
	7.	G. N. W. Tel. Co., telegrams	5 65
	7.	Ryther & Pringle, repairs, dredge, etc	109 00
	8.	Crane, Belden & Co., lumber	199 84
	8.	John Studer, blacksmithing	5 50
	8.	Somers & Sawyer, telegrams	1 46
	8.	Hoyt & Riggs, hardware	7 52
	9.	Doig Bros., hardware	8 32
	9.	E. D. Burdick, hardware	5 20
	9.	A. A. Dekin, blacksmithing	6 80
	9.	Roberts Bros., cement	24 00
	17.	Geo. Dinehart and others, pay-roll	322 05
			$5, 685 84

LAND DAMAGES.

Awards by Canal Appraisers.

1884.				
Aug.	8.	Jos. A. Northrup, Martinsburg, Lewis Co	$534 00	
1885.				
Feb.	25.	C. E. & E. Pelton	154 91	
				$688 91

Awards by Board of Claims.

June	30.	A. B. Lamberton, Wilmart, Herkimer Co	$4, 800 00	
July	20.	Chester J. Munn and others, M. R. Tract, Hamilton Co.	400 00	
	6.	S. J. Niccolls and others, Wilmart, Herkimer Co	150 00	
				5, 350 00
				$6, 038 91

FORESTPORT RESERVOIR.

Chapter 452, *Laws* 1883.

1884.			
Nov.	15.	Thos. Perkins, common labor	$7 50
	15.	R. R. Thorp, use of boat	10 00
	15.	C. E. Phelps, lumber	1 75
	15.	Sargeant & Son, stone boats	7 50
	15.	Denton & Waterbury, lumber, etc	474 40
	15.	W. R. Stanburgh, lumber, etc	49 90
	15.	F. A. Barrett, lumber, etc	12 00
	15.	Moran & King, blacksmithing	12 85
	15.	Geo. Wood, hardware	18 34
	15.	Delos Cramer, blacksmithing	281 60
	17.	Timothy Coughlin, pay-roll	408 75
	17.	Timothy Coughlin, pay-roll	414 75
	17.	Timothy Coughlin, pay-roll	413 37
	17.	Timothy Coughlin, pay-roll	568 50
	17.	Robt. Hayes, pay-roll	558 50
	17.	Robt. Hayes, pay-roll	600 12
	17.	Roscoe Wade, common labor	21 00
	17.	Wm. Donovan, use of boat, etc	99 00
	17.	Alex. Phillips, use of boat, etc	126 00
	18.	H. E. Clark & Co., hardware	412 24
	18.	Thos. W. Hicks, livery	13 00
	17.	Robt. Hayes and others, poy-roll	149 13
	20.	Wardwell Bros., iron	30 91
Dec.	3.	R. J. Helmer, nails	4 98
	3.	Denton & Waterbury, lumber	14 03
	3.	Jos. Amos, shingles	24 18
	3.	P. McGuire, derrick stick	4 50
	3.	Geo. Thurston, stone boat	6 00
	3.	Moran & King, blacksmithing	23 62
	3.	C. E. Phelps, general foreman	208 00
	3.	C. E. Phelps, freight	1 29
	3.	J. H. Neyer, pay-roll	536 05
	3.	J. H. Neyer, pay-roll	533 05
	3.	J. H. Neyer, pay-roll	602 29
	3.	J. H. Neyer, pay-roll	447 42
	12.	Robt. Hayes, pay-roll	1,412 95
	12.	Robt. Hayes, pay-roll	540 70
	12.	Robt. Hayes, pay-roll	503 10
	12.	Thos. Claffey, drills	2 24
	4.	James Enright, labor	2 25
	12.	Wm. Donovan, use of boat	198 00
Nov.	17.	T. Choughlin, pay-roll	202 50
Dec.	3.	J. H. Neyer, pay-roll	155 55
	12.	C. F. Rice, window sash	10 50

1884.			
Dec.	12.	Gilbert & Sawyer, scraper, etc	$11 25
	12.	Delos Cramer, blacksmithing	170 65
	24.	T. W. Jones, team labor	71 05
	24.	W. H. Buck, carpenter	3 00
	24.	R. N. Bartlett, carpenter	2 25
1885.			
Jan.	8.	Delos Cramer, blacksmithing	71 93
	8.	Alex. Phillips, use of boat	180 00
	9.	R. E. Clark & Co., hardware	80 00
	9.	T. W. Hicks, livery	8 00
	9.	D. H. Peck, livery	28 50
	9.	R. Hayes, pay-roll	1,050 05
	9.	R. Hayes, pay-roll	562 55
	9.	R. Hayes, pay-roll	301 50
	10.	R. E. Clark & Co., hardware	10 16
	12.	U. & B. R. R. R. Co., freight	1 85
	16.	Wm. Churchill, team labor	7 00
	16.	John Falen, team labor	3 50
	19.	P. McGuire, lumber	6 00
	20.	U. & B. R. R. R. Co. freight	95
	21.	U. & B. R. R. R. Co., railroad iron	10 00
Feb.	2.	Mack, Dunn & Co., iron and tools	31 62
	2.	Geo. Draper, plugs and feathers	37 20
	4.	R. E. Clark & Co., hardware	17 83
	4.	Gilbert & Sawyer, shives, etc	6 00
	6.	Robert Hayes, pay-roll	1,060 50
	6.	Robert Hayes, pay-roll	580 77
	6.	Robert Hayes, pay-roll	261 30
	6.	Robert Hayes, pay-roll	78 75
	6.	Robert Hayes, pay-roll	37 70
	10.	D. Cramer, blacksmithing	20 75
June	6.	D. H. Peck, team labor	3 00
July	15.	Norah Tracy, stone	85 00
Aug.	1.	D. A. Talcott, team labor	7 00
	14.	Charles Davis, common labor	60
			$14,932 52

Recapitulation.

Black River Canal, Section No. 1	$8,762 43	
Black River Canal, Section No. 2	5,685 84	
		$14,448 27
Forestport Reservoir		14,932 52
Land Damages		6,038 91
		$35,419 70

(E.)

OSWEGO CANAL.

Section No. 1.

1884.			
Oct.	18.	E. J. Eddy, oil, etc	$9 18
	18.	D. Sullivan, blacksmithing	4 58
	18.	Ryan & Smith, blacksmithing	6 68
	18.	E. E. Chapman, lumber	3 25
Nov.	13.	Mack, Dunn & Co., hardware	42 83
	22.	Crane, Belden & Co., pine	161 00
	24.	E. J. Eddy, oil, etc	15 17
	24.	D. Sullivan, blacksmithing	4 15
	29.	Ryan & Smith, blacksmithing	8 54
	29.	E. Fairbanks & Co., removing obstructions.	20 00
Dec.	29.	E. J. Eddy, hardware	3 30
	29.	G. H. Dietz, lumber	12 00
	30.	E. E. Chapman, lumber	3 97
	30.	D. Sullivan, blacksmithing	8 64
	30.	Ryan & Smith, blacksmithing	4 44
	31.	Mack, Dunn & Co., hardware	29 95
1885.			
Mch.	21.	John Cooney, watchman	39 36
April	8.	S. D. Newton and others, pay-roll	38 00
	14.	Mack, Dunn & Co., hardware	20 55
May	5.	George Draper, blacksmithing	2 66
	7.	D. Sullivan, blacksmith	31 39
	9.	E. J. Eddy, hardware	38 70
	11.	John Leahy, pay-roll	70 25
	12.	O'Brien & Holihan, sand	6 00
	14.	M. Britton & Son, lime	13 50
	14.	W. H. Stedman, sand	9 00
	4.	O'Brien & Holihan, building wall lock 4.	67 20
	4.	O'Brien & Holihan, pointing wall lock 3.	26 40
	6.	John Cooney, watchman	16 66
June	10.	Mack, Dunn & Co., spike	7 50
Aug.	15.	E. J. Eddy, hardware	2 95
	15.	E. J. Eddy, hardware	34 58
	15.	D. Sullivan, blacksmithing	23 50
	19.	H. Russell & Son, blacksmithing	60
	19.	E. E. Chapman, lumber	45 00
Sept.	9.	E. J. Eddy, hardware	13 28
	12.	Frazer & Decker, lumber	8 68
	30.	Mack, Dunn & Co., spike	2 50
Oct.	3.	G. H. Dietz, lumber	37 42
	3.	O'Brien & Hoolihan, masonry	130 12
	3.	E. J. Eddy, hardware	6 42

1885.			
Oct.	3.	P. Longout, blacksmithing	$6 55
	3.	E. E. Chapman, lumber	40 48
	3.	Crane, Belden & Co., lumber	347 00
			$1,423 93

Section No. 2.

1884.			
Nov.	5.	Geo. Draper, bolts	$43 40
	14.	Mack Dunn & Co., hardware	53 85
	21.	J. J. Wright, hardware	19 88
	21.	J. S. Palmer, blacksmithing	40 52
	21.	Frank Dills, gate step	7 58
	21.	W. S. Nelson & Co., lumber	20 34
	22.	W. Johnson, lumber	258 69
	24.	O. J. Jennings, use of boat	96 00
	24.	O. J. Jennings, stone	65 62
	22.	L. N. Ostrander, sand	2 00
	25.	G. W. Briggs, gravel	10 00
	25.	J. H. Murton, tow line	6 02
Dec.	20.	Grant & Dunn, oil	28 20
	20.	Sheridan Bros., hardware	15 55
	20.	J. J. Wright, hardware	2 33
	20.	Gage, Sheridan & Co., water lime	12 35
	20.	Gage, Sheridan & Co., water lime	16 05
	20.	Willard Johnson, lumber	55 52
	20.	Pooler & Wilson, coal	112 69
	20.	Frank Diltz, washers	5 39
	20.	J. S. Palmer, blacksmithing	3 10
	20.	J. S. Palmer, blacksmithing	167 78
	27.	Crane, Belden & Co., pine lumber	492 58
	28.	Wm. Gibbons, pay-roll	411 87
	27.	C. R. Clark, pumping at lock 7	100 00
	27.	R. B. McCully, sawing	50
	27.	John Gorman, labor	6 88
	27.	E. E. Schenck, lumber	1 06
	27	B. Howard, diving	1 00
	27.	O. J. Jennings, stone	154 00
	29.	Jas. Gilhooley, diving	2 00
	30.	R. McCarthy, cartage	1 00
	30.	John Porter, sand	7 48
1885			
Jan.	2.	M. S. Horton, towing	11 00
	11.	J. H. Loomis & Son, coal	6 83
	13.	W. D. Allen, pumping at lock 7	513 75

1885.

Jan.	19.	Q. Rust, lumber	$6 42
	20.	Jno. Case, sand	8 40
	20.	Hotchkiss, wood and manure	5 50
	20.	J. A. Loomis & Son, lumber	43 04
Feb.	3.	Kriffer & Welch, stove	13 00
Mch.	13.	W. Johnson, lumber	102 00
	12.	E. Coyne, lumber and labor	2 00
	20.	D. Webster, team labor	90
	20.	J. S. Palmer, blacksmithing	3 00
	20.	E. W. Ross & Co., blacksmithing	13 72
	13.	Osborne Bros., lumber	11 74
	21.	D. L. & W. R. Co., freight	9 60
May	2.	W. Johnson, lumber	315 17
April	7.	Q. Rust, lumber	1 30
	9.	J. S. Palmer, blacksmithing	7 54
	9.	Snow & Loomis, boring machine	6 45
May	9.	Snow & Loomis, hardware	9 00
	9.	J. S. Palmer, blacksmithing	5 84
	11.	McCarthy & Hill, blacksmithing	15 40
	11.	A. Riddlecomb, use of boat	9 00
	11.	H. Becker, use of boat	18 00
	11.	Post & Henderson, lumber	4 06
	11.	J. H. Loomis & Sons, lumber	1 28
June	19.	John Porter, sand	75
	19.	D. Van Buren, clay	2 00
	19.	Wm. Taylor, lock lamp	3 00
	19.	Snow & Loomis, hardware	40 46
	19.	Gage, Sheridan & Co., lime	95
	19.	Geo. Johnston, stove for scow	16 65
	19.	E. E. Schenck, lumber	5 56
	19.	Osborne Bros., lumber	32 73
	19.	Q. Rust, lumber	14 35
	19.	W. Johnson, lumber	304 70
	19.	J. S. Palmer, blacksmithing	30 52
	20.	J. A. Perkins, blacksmithing	2 00
	20.	T. Donohue & Co., blacksmithing	5 62
	21.	F. Garrison, diving	3 00
	22.	A. E. Russ, lumber	79 80
	22.	W. D. Patterson, paint	84
	22.	A. Dingman, watchman	10 00
May	5.	L. T. Richardson, telegrams	62
July	8.	Joseph Moss, repairs, scow	3 40
	8.	E. E. Schenck, lumber and sawing	12 09
	8.	J. H. Merton, rope, hay, etc	4 53
	8.	J. S. Palmer, blacksmithing	48 45
	8.	Gage, Sheridan & Co., lime	2 85
	9.	F. B. Farwell & Co., lime	1 80

1885.			
July	9.	T. Donahue & Co., blacksmithing........	$2 85
	9.	McCarty & Marsh, oars................	2 85
	10.	George H. Bough, lamp repairs.........	1 65
	9.	B. D. Houghton, rope............... ...	2 94
	10.	Osborne Brothers, lumber	58 06
	10.	Mrs. John Case, sand..................	1 50
Aug.	6.	Mack, Dunn & Co., hardware	14 70
	12.	J. S. Palmer, blacksmithing	32 01
	13.	T. Donahue & Co., blacksmithing........	4 40
	13.	E. E. Schenck, sawing	9 50
	13.	Snow & Loomis, hardware..............	13 60
	13.	Hutchinson & Co., paint	2 20
	13.	D. Van Buren, clay....................	2 00
	13.	W. Johnson, lumber	165 98
	13.	W. S. Nelson & Co., sawing............	2 00
	13.	D. J. Morfer, hay..	3 12
	13.	James Gilhooly, diving	8 00
	13.	Walter Bradley, diving	1 00
	26.	William Daywell, blacksmithing	2 98
	26.	R. Platt, paint and brush	60
	28.	Crane, Belden & Co., lumber	181 86
	29.	A. Filsinger, blacksmithing.............	52 63
	31.	George Dinehart, carpenter.............	24 00
Sept.	3.	L. T. Richardson, telegrams.............	57
	5.	Mack, Dunn & Co., hardware...........	17 35
	8.	B. D. Houghton, tow line..............	4 20
	8.	H. G. Fox, freight	7 45
	8.	E. E. Schenck, lumber	9 00
	8.	J. H. Merton, hay	2 03
	8.	W. S. Nelson & Co., lumber............	79 80
	8.	J. S. Palmer, blacksmithing	28 95
	8.	Snow & Loomis, hardware	12 93
	8.	W. Bradley, diving..	2 00
	8.	Q. Rust, lumber	5 70
	9.	Osborn Bros., lumber..................	53 37
	9.	Charles Bough, diving	3 00
	9.	O. J. Jennings, gravel and stone	40 00
	11.	Alexander, B. & D., bridge works	24 09
	11.	George Dinehart and others, pay-roll	441 47
	30.	Mack, Dunn & Co., spike	194 86
Oct.	3.	Crane, Belden & Co., lumber....	1,651 45
	3.	W. Johnson, lumber....................	321 49
	3.	Q. Rust, lumber	58
	3.	E. E. Schenck, wooden pins	14 25
	3.	J. M. Campbell, castings................	42 32
	3.	J. S. Palmer, blacksmithing	24 90
	3.	Snow & Loomis, hardware..............	8 61

1885.			
Oct.	3.	Gage & Sheridan, lime	$2 85
	6.	James Gilhooly, diving	8 00
	6.	O. J. Jennings, stone	48 00
	7.	Hutchinson & Co., paint, etc	33 22
	7.	W. D. Patterson, paint, etc	52 46
	7.	A. W. Johnson, lamp repairs	60
			$7, 716 03

Land Damages.

1885.			
July	7.	Delia W. Forger, Salina, Onondaga county, award of Board of Claims	$425 00

Recapitulation.

Oswego Canal, Section No. 1	$1, 423 93	
Oswego Canal, Section No. 2	7, 716 03	
		$9, 139 96
Land damages		425 00
		$9, 564 96

(F.)

CAYUGA AND SENECA CANAL.

1884.			
Nov.	6.	J. C. King, harbor master October	$15 00
	6.	William Miller, beacon tender, October	15 00
	14.	Grant & Dunn, hardware	6 12
	14.	Mack, Dunn & Co., hardware	1 25
	14.	Kelly, Ross & Co., oil	1 35
	22.	Crane, Belden & Co., pine	604 20
	25.	John Emmett, building dam at Waterloo	1, 369 73
Dec.	9.	William Miller, beacon tender	17 70
	12.	Rumsey & Co., castings	13 92
	12.	Terwilliger & Co., lumber	8 34
	12.	Latham & Rogers, lumber	1 08
	12.	Wm. Langworthy, hardware	9 73
	12.	Hoey & McNarey, oil, etc	8 32
	12.	James A. Flannigan, oil, etc	3 66
	12.	P. Q. Lincoln, repairs to scow	1 77
	12.	R. Cruise, blacksmithing	2 15
	12.	Patrick Hoey, blacksmithing	2 95
	13.	John Blake, blacksmithing	14 11
	13.	John Mackay, lumber	60 87
	13.	John Mackay, lumber	117 36

1884.			
Dec.	15.	L. Chaffey, inspector Waterloo dam......	$92 00
	12.	Allen & Nugent, hardware............	2 34
	16.	Kelly, Ross & Co., oil..................	60
	26.	J. C. King, harbor master..............	15 00
1885.			
Jan.	8.	Peter Cully, manure....................	3 00
	8.	Aug. Clark, lumber.....................	36 36
	9.	Willard Johnson, oak timber............	206 34
	9.	Crane, Belden & Co., pine timber........	644 66
April	3.	N. Y. C. & H. R. R. Co., freight.......	28
	3.	P. Hoey, blacksmithing..................	2 38
	3.	George Draper, blacksmithing...........	16 87
	4.	James Gay and others, pay-roll.........	224 60
	28.	D. W. Colvin, freight on cement........	12 66
	28.	P. Hoey, blacksmithing.................	50
May	5.	Mack, Dunn & Co., paint..............	8 75
	11.	Wm. Langworthy, hardware...........	20 31
	11.	J. Y. Laizelen, sand......................	7 00
	11.	Rumsey & Co., sawing..................	4 00
	26.	John Hanlin, team labor................	4 20
	27.	John Emmett, use of derrick............	9 90
	29.	Judson Warner, common labor..........	7 05
June	5.	George Draper, blacksmithing..........	27 86
	8.	Farmers' Fert. Co., storehouse.........	25 00
	10.	Mack, Dunn & Co., nails..............	23 60
	10.	George Dinehart, rebuilding bridge......	461 01
	10.	Crane, Belden & Co., lumber...........	1,074 23
	15.	D. W. Colvin, freight paid..............	4 66
	15.	Baker & Webster, oil and paint.........	4 90
	15.	William Langworthy, hardware.........	13 73
	15.	Latham & Rogers, lumber...............	54 14
	15.	Rumsey & Co., castings................	62 77
	15.	Kirk Bros., blacksmithing..............	25 61
	15.	P. Q. Lincoln, repairs, scow.............	141 20
	16.	J. R. Van Sickle, nails..................	56
July	3.	George Draper, blacksmithing..........	10 32
	7.	Latham and Rogers, shingles...........	2 50
	7.	M. Wilson & Co., paint................	1 60
	7.	Dorchester & Rose, nails...............	80
	7.	Garnsey & Waller, hardware and oil.....	31 14
	7.	R. Cruise, blacksmithing...............	3 95
	7.	Kirk Bros., blacksmithing..............	14 00
	7.	Aug. Clark, lumber.....................	95 19
	7.	John Mackay, lumber..................	154 45
	8.	James Gray, ladder.....................	3 36
Aug.	4.	W. B. Dunning, repairs to dredge.......	73 52
	4.	J. O. Seymour, coal....................	17 61
	4.	Patrick Hoey, blacksmithing............	1 70

1885.			
Aug.	4.	Terwilliger & Co., lumber	$20 24
	13.	William Langworthy, paint, etc	8 00
	13.	Garnsey & Waller, hardware	3 30
	13.	Rumsey & Co., castings	25 90
	13.	Allen & Nugent, wheelbarrows and oil	7 16
Sep.	8.	P. Hoey, blacksmithing	1 35
	9.	Truman, King & Co., hardware	3 40
	9.	Rogers & Co., lumber	32 60
	9.	J. C. King, salary	60 00
	9.	Wm. Miller, salary	55 00
	9.	Wm. Miller, oil	3 90
	10.	Garnsey & Waller, hardware	3 23
	10.	Aug. Clark, lumber	77 37
	10.	Aug. Dunckle, coal	50 69
	10.	P. Q. Lincoln, repairs, scow	16 38
	29.	Wm. Miller, salary	25 00
Oct.	7.	Latham & Rogers, lumber	2 22
	7.	Aug. Clark, lumber	36 21
	7.	Rogers & Co., lumber	96 07
	7.	Wm. Langworthy, hardware	13 23
	7.	Kelley, Ross & Co., tow line	2 66
			$6,466 73

Land Damages.

Cayuga Inlet; Award of Canal Appraisers.

1884.				
Dec.	13.	Truman, Waterman & Co., Ithaca, Tompkins Co	$128 40	
1885.				
May	9.	Lafayette L. Tieman, Ithaca, Tompkins Co	1,200 00	
				$1,328 40
				$7,795 13

(G.)

CHENANGO CANAL.

1884.			
Nov.	22.	Crane, Belden & Co., pine lumber	212 60
	25.	Thad. Leonard, charge of canal, October	60 00
Dec.	20.	Grant & Dunn, wheelbarrows	22 80
	20.	Thad. Leonard, charge of canal, November	60 00
	30.	Thad. Leonard, charge of canal, December,	60 00
	30.	John Walker, stone	175 50
	30.	Smith & Wickwin, water lime	28 00
	30.	B. Leach, sand	3 13
	30.	James Leonard, labor	4 50
	30.	E. G. Coleman, lumber	27 43

1884.			
Dec.	30.	D. Burlingame, stone	$10 25
	30.	Wedge & Allen, lumber	7 74
	30.	C. S. Nichols, nails and shovels	1 68
	30.	Thad. Leonard, pay-roll, November	316 35
	30.	Thad. Leonard, pay-roll, October	111 25
	30.	Thad. Leonord, pay-roll, November	189 90
	30.	Thad. Leonasd, pay-roll, December	468 60
	30.	E. Scanlon, labor	7 10
	30.	A. Fagen, stone	7 50
	30.	Lewis Mathews and others, pay-roll	92 25
1885.			
March	3.	Thad. Leonard, charge of canal, January	60 00
	3.	Thad. Leonard, charge of canal, February,	60 00
	3.	Owen Andrews and others, pay-roll	52 85
May	8.	Thad. Leonard, pay-roll, repairs	28 80
	5.	Thad. Leonard, charge of canal, April	60 00
March	31.	Thad. Leonard, charge of canal, March	60 00
April	2.	Thad. Leonard, pay-roll, cutting ice	14 40
June	7.	Thad. Leonard, charge of canal, May	60 00
	7.	A. B. Rice and others, pay-roll	563 70
July	10.	Thad. Leonard, charge of canal, June	60 00
	10.	Thad. Leonard, pay-roll	406 95
Aug.	4.	Thad. Leonard, charge of canal	60 00
	4.	H. Close, lumber	22 87
	8.	J. A. Douglas, lumber	16 75
	10.	A. N. Smith, hardware	2 60
	10.	Thad. Leonard, pay-roll	79 50
Sept.	5.	Thad. Leonard, charge of canal	60 00
	5.	Thad. Leonard, pay-roll	55 75
	29.	Thad. Leonard, pay-roll	18 00
	29.	Thad. Leonard, charge of canal	60 00
Oct.	3.	A. N. Smith, hardware	1 87
	3.	Wedge & Allen, lumber	23 15
			$3,683 77

LAND DAMAGES.

Awards of Board of Claims.

June	22.	Ausburn Birdsall, Binghamton, Broome county	$800 00
	29.	E. Chollar and others, Binghamton, Broome county	400 00
	29.	Henry B. Ogden, Binghamton, Broome county	400 00
	30.	E. R. M. Birdsall, Binghamton, Broome county	5,000 00

1885.				
June	29.	W. L. Griswold and Condon Clark, executors, etc.	$350 00	
	29.	Lucy Bennett and others, Binghamton, Broome county	500 00	
	29.	O. W. Chapman and A. C. Pope, executors, etc., Binghamton, Broome county	400 00	
July	13.	Daniel Lyons, Binghamton, Broome county	2,500 00	
	16.	W. Lounsbury, Nichols, Tioga county	600 00	
				$10,950 00
				$14,633 77

(H.)

GENESEE VALLEY CANAL.

Land Damages.

Award of Canal Appraisers.

1884.				
Nov.	17.	John Barrett, Leicester, Livingston county.		$160 00

Award of Board of Claims.

1885.				
July	22.	George D. Jones, Chili, Monroe county	$50 00	
Sept.	8.	Alma Williams and G. W. Williams, administrators, Portage, Livingston county	275 00	
				325 00
				$485 00

(I.)

CHEMUNG CANAL.

Damages.

Awards of Board of Claims.

June	22.	George H. Phelps and A. N. Quinn, administrators of Patrick Quinn, Millport, Chemung county	$750 00
July	20.	Benjamin Westlake, Horseheads, Chemung county	256 82
			$1,006 82

(J.)

Statement showing the expenses of the engineer corps on the several canals during the fiscal year ending September 30, 1885.

NAMES OF ENGINEERS.	Salaries of division and resident engineers.	Travel.	Assistants.	Levelers.	Rodmen.	Chainmen.	Labor.	Stationery.	Fuel.	Light.	Rent.	Postage and telegraph.	Miscellaneous	Total.
Erie Canal.														
John R. Kaley..........	$1,600 00	$643 03	$2,795 00	$1,206 00	$94 50	$770 00	$4 50	$396 20	......	......	......	$127 70	$273 97	$7,910 90
Denison Richmond.......	1,365 75	357 68	1,396 00	1,089 00	....	480 00	....	136 40	$46 70	$5 48	......	41 79	559 00	5,477 80
Thomas Evershed........	3,633 33	617 63	135 00	....	1,001 00	652 50	....	88 84	.....	3 60	$400 00	52 40	254 10	6,838 40
Champlain Canal.														
John R. Kaley...........	800 00	1,356 90	2,678 00	2,223 00	4,487 00	477 50	24 50	142 94	21 43	7 20	92 00	60 44	787 92	13,158 83
Oswego Canal.														
Denison Richmond.......	229 04	60 54	46 00	27 00	....	....	....	....	......	......	....	....	12 00	374 58
Black River Canal.														
Denison Richmond.......	409 25	280 19	322 00	90 00	....	105 00	....	....	.....	......	....	....	213 50	1,419 94
Cayuga and Seneca Canal.														
Denison Richmond.......	225 00	53 71	63 00	27 00	....	5 00	....	....	......	.. ...	....	....	....	373 71
	$8,262 37	$3,369 38	$7,435 00	$4,662 00	$5,582 50	$2,490 00	$29 00	$764 38	$68 13	$16 28	$492 00	$282 33	$2,100 00	$35,554 16

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K.

STATEMENT showing the Expenditures by the Superintendent of Canal Repairs on each of the State Canals, from the 30th of September, 1884, to the 30th of September, 1885.

NAMES.	No. of section.	EXTENT OF LINES.			EXPENDED BY SUPERINTENDENTS.			Total on each section.	Total on each canal.
		From	To		Salary.	Repairs.	Totals.		
J. B. McKee	1	The south end of Albany basin	The west end of lower Mohawk aqueduct, including West Troy and Port Schuyler side-cuts, and Champlain canal, from its junction with the Erie canal to the end of the stone wall at the guard-lock on the north side of the Mohawk river	16	$1,200 00	$41,073 37	$42,273 37	$42,273 37	
Wm. Hathaway	2	The west end of the lower Mohawk aqueduct	The head of lock 27	36	1,200 00	25,661 84	26,861 84	26,861 84	
John Hughes	3	The head of lock 27	The head of lock 34, including Schoharie creek feeder	38	1,200 00	22,422 86	23,622 86	23,622 86	
John F. Thomas	4	The head of lock 34	The east line of the county of Oneida	30	1,200 00	20,817 14	22,017 14	22,017 14	
Charles Graham	5	The east line of the county of Oneida	The west side of Peterboro street bridge, in the village of Canastota	37	1,200 00	13,522 72	14,722 72	14,722 72	
Robert R. Osmond	6	The west side of Peterboro street bridge, in the village of Canastota	And including the Camillus feeder	33	1,200 00	12,934 95	14,134 95	14,134 95	
John H. Eldrich	7	The west bank of Camillus feeder	The easterly line of Wayne county	30	1,200 00	1,889 62	3,089 62	3,089 62	
Daniel V. Teller	8	The easterly	The westerly line of Wayne county	39	1,200 00	23,453 47	24,653 47	24,653 47	
John S. Gunsaul	9	The easterly line of Monroe county	The west end of construction section 284, in the village of Brockport	40	1,200 00	21,965 08	23,165 07	23,165 07	
Horace H. Servoss	10	The west end of construction section 284	And including the guard lock west of Lockport	47	1,200 00	25,482 93	26,682 93	26,682 93	
George Chambers	11	The head of the guard-lock west of Lockport	The city of Buffalo; including Main and Hamburgh streets, and Clark and Skinner canals, the Erie and Ohio basins, with their slips, and Black Rock Harbor	28	1,200 00	39,623 62	40,823 62	40,823 62	
				374	$13,200 00	$248,847 60	$262,047 60	$262,047 60	$262,047 60
			Champlain Canal.						
David F. Baker	1	The end of the stone wall at the guard-lock one the north side of the Mohawk river	The foot of the first lock north of the Saratoga dam, including the Mohawk and Saratoga dams, also the sloop-lock dam and pond above	22	$1,200 00	$14,145 86	$15,345 86	$15,345 86	
George B. Sherrill	2	The first lock north of Saratoga dam	Dunham's basin, including the waste-weir at that place, and the Glens Fall feeder	24	1,200 00	20,551 09	21,751 09	21,751 09	
Sylvester Mahan	3	Dunham basin	Lake Champlain	24	1,200 00	12,631 53	13,831 53	13,831 53	
				70	$3,600 00	$47,328 48	$50,928 48	$50,928 48	$50,928 48
			Oswego Canal.						
John Leahy	1	Syracuse	Three River point, including Seneca river towing-path and the Baldwinsville canal	15	$1,200 00	$7,861 59	$9,061 59	$9,061 59	
Luman T. Richardson	2	Three River Point	Oswego, including the Oneida river improvement	23	1,200 00	12,925 93	14,125 93	14,125 93	
				38	$2,400 00	$20,787 52	$23,187 52	$23,187 52	$23,187 52
			Cayuga and Seneca Canal.						
Delos W. Colvin	..	Erie canal at Montezuma	Geneva, including the lateral canal to east of Cayuga village	22	$1,200 00	$6,302 22	$7,502 22	$7,502 22	
				22	$1,200 00	$9,302 22	$7,502 22	$7,502 22	[illegible]
			Black River Canal.						
Peter Phillips	1	The Erie canal at Rome	The foot of lock 71, at Boonville, including all the feeders and connected therewith	38	$1,200 00	$21,520 43	$22,720 23	$22,720 23	
James Galvin	2	The foot of lock 71, at Boonville	The Black river at Lyons Falls, the Black river improvement and other structures connected therewith and appertaining thereto	54	1,200 00	8,333 45	9,533 45	9,533 45	
				92	$2,400 00	$29,853 68	$32,253 68	$32,253 68	$32,253 68
				596	$22,800 00	$353,119 50	$375,919 50	$375,919 50	$375,919 50

(L.)

COMPARATIVE STATEMENT of expenditures for repairs by the superintendents for the years ending the 30th September, 1884 *and* 1885.

CANALS.	1884.	1885.
Erie, Eastern Division........	$120,090 14	$114,775 21
Erie, Middle Division........	43,563 14	31,947 29
Erie, Western Division.......	123,641 56	115,325 10
Champlain, Eastern Division..	57,163 89	50,928 48
Oswego, Middle Division.....	22,475 89	23,187 52
Cayuga and Seneca, Middle Division....................	7,436 21	7,502 22
Black River, Middle Division..	32,720 63	32,253 68
Total..................	$407,091 46	$375,919 50

Recapitulation.

CANALS.	1884.	1885.
Eastern Division	$177,254 03	$165,703 69
Middle Division.............	106,195 87	94,890 71
Western Division...........	123,641 56	115,325 10
Total..................	$407,091 46	$375,919 50

(M.)

STATEMENT showing the average cost per mile of the repairs of each division of the Erie canal by the superintendents, from 1835 *to* 1885, *including payments to repair contractors from* 1854 *to* 1874, *and expenditures by resident engineers from* 1857 *to* 1861.

YEARS.	Eastern Division.	Middle Division.	Western Division.
	Average per mile.	Average per mile.	Average per mile.
1835	$1,043 06	$704 44	$867 35
1836	773 56	455 10	629 00
1837	845 42	479 62	863 61
1838	732 32	438 61	1,051 69
1839	623 68	349 09	640 09
1840	1,021 72	441 26	684 65
1841	686 30	482 34	448 74
1842	981 08	612 58	580 18

(M.) — *Continued.*

YEARS.	EASTERN DIVISION.	MIDDLE DIVISION.	WESTERN DIVISION.
	Average per mile.	Average per mile.	Average per mile.
1843	$908 32	$367 48	$715 07
1844	1,118 88	433 94	913 69
1845	983 26	650 06	949 88
1846	934 35	621 41	928 93
1847	961 88	667 40	991 14
1848	1,317 06	993 26	1,071 16
1849	1,094 33	621 42	939 83
1850	1,284 17	527 69	1,238 84
1851	1,514 98	514 62	799 89
1852	2,237 34	709 13	891 91
1853	1,878 67	691 95	1,114 77
1854	2,038 35	899 38	1,135 31
1855	2,043 06	993 86	781 32
1856	1,547 22	433 42	976 95
1857	1,128 36	607 07	1,138 44
1858	1,515 63	614 91	965 89
1859	1,586 36	360 06	888 56
1860	787 96	259 04	284 33
1861	737 71	282 65	353 00
1862	779 15	334 51	396 92
1863	1,063 36	384 80	609 90
1864	2,024 45	761 48	727 11
1865	2,738 71	803 41	1,722 68
1866	2,199 00	629 18	1,329 84
1867	1,845 91	344 01	884 53
1868	1,419 21	307 26	943 45
1869	1,706 08	390 47	1,257 18
1870	3,778 24	1,286 91	1,361 88
1871	3,916 17	1,408 86	1,523 61
1872	3,146 83	1,241 68	1,714 16
1873	2,258 57	1,598 52	1,399 29
1874	1,937 72	1,342 94	1,296 99
1875	2,185 56	854 30	1,045 88
1876	2,023 44	942 54	981 67
1877	2,435 00	869 73	1,023 13
1878	1,504 59	438 23	615 56
1879	931 68	335 89	530 03
1880	1,439 58	313 81	678 78
1881	1,231 11	506 32	872 39
1882	917 87	321 48	629 60
1883	1,003 93	369 42	703 77
1884	931 21	421 41	802 86
1885	872 13	376 55	748 86

(*N.*)

STATEMENT showing the amount expended by the superintendent of repairs, and the average cost per mile on each and all of the canals, frow 1826 *to* 1884 (*except expenditures in* 1854 *under contesting superintendents*) *including expenditures by resident engineers from* 1857 *to* 1861, *and payments to repair contractors from* 1855 *to* 1875, *both inclusive.*

YEAR	ERIE AND CHAMPLAIN CANALS.		OSWEGO CANAL.		CAYUGA AND SENECA CANAL.	
	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.
1826	$182, 162	$414	....	....	....	....
1827	232, 472	528	....	....	....	....
1828	225, 846	513	$8, 637	$289	....	....
1829	232, 931	529	13, 003	361	$8, 449	$386
1830	202, 968	461	12, 500	349	5, 447	247
1831	168, 240	382	9, 170	254	3, 363	152
1832	327, 302	743	12, 259	340	5, 356	243
1833	328, 585	746	11, 295	313	8, 243	374
1834	429, 650	926	12, 181	388	8, 832	401
1835	392, 921	893	16, 327	453	9, 685	440
1836	310, 183	704	51, 637	1, 434	29, 898	1, 358
1837	365, 406	830	57, 908	1, 608	28, 539	1, 297
1838	374, 713	851	49, 360	1, 371	18, 944	861
1839	297, 722	676	24, 463	679	23, 397	1, 063
1840	364, 292	827	34, 796	915	24, 740	1, 124
1841	255, 687	581	26, 406	694	13, 940	633
1842	322, 354	722	31, 427	827	15, 829	719

(*N.*)—*Continued.*

YEAR.	ERIE AND CHAMPLAIN CANALS.		OSWEGO CANAL.		CAYUGA AND SENECA CANAL.	
	Cost of repairs.	Average per mile.	Cost of Repairs.	Average per mile.	Cost of Repairs.	Average per mile.
1843	$297, 614	$676	$23, 678	$623	$10, 938	$497
1844	271, 449	844	28, 598	752	14, 442	656
1845	399, 094	907	46, 639	1, 227	14, 191	645
1846	371, 499	843	53, 546	1, 409	12, 325	560
1847	380, 388	864	39, 551	1, 040	14, 192	645
1848	503, 953	1, 145	72, 783	2, 021	13, 000	591
1849	395, 681	899	32, 792	872	10, 823	537
1850	478, 887	1, 085	31, 805	837	19, 831	482
1851	433, 335	982	30, 510	803	20, 615	937
1852	492, 457	1, 343	42, 757	1, 125	25, 434	1, 156
1853	575, 777	1, 306	38, 026	1, 001	17, 421	792
1854	611, 342	1, 386	86, 530	2, 277	17, 025	774
1855	555, 492	1, 259	60, 596	1, 595	10, 567	480
1856	454, 865	1, 081	59, 824	1, 574	9, 864	448
1857	458, 476	1, 039	78, 037	2, 053	13, 233	601
1858	437, 379	992	107, 698	2, 834	21, 767	988
1859	446, 746	1, 027	48, 253	1, 269	5, 850	266
1860	229, 008	526	15, 639	412	3, 492	159
1861	206, 952	476	25, 552	672	19, 284	876
1862	240, 652	553	31, 192	821	19, 059	866
1863	323, 625	744	29, 090	765	11, 829	577

1864	519, 505	1, 194	27, 414	721	14, 972	680
1865	816, 660	1, 877	238, 622	6, 280	19, 965	907
1866	665, 169	1, 529	59, 664	1, 569	16, 427	747
1867	489, 170	1, 125	44, 463	1, 170	18, 848	857
1868	443, 576	1, 020	88, 591	2, 331	20, 000	910
1869	609, 236	1, 400	42, 311	1, 113	21, 458	975
1870	1, 084, 379	2, 493	39, 146	1, 030	40, 237	1, 828
1871	898, 671	2, 061	51, 707	1, 361	30, 010	1, 364
1872	943, 374	2, 075	84, 103	2, 213	21, 047	1, 275
1873	788, 765	1, 813	99, 819	2, 627	22, 900	1, 041
1874	720, 665	1, 432	86, 638	2, 380	21, 867	994
1875	666, 509	1, 532	68, 628	1, 806	17, 811	810
1876	652, 803	1, 501	47, 286	1, 244	19, 475	885
1877	689, 676	1, 564	51, 406	1, 353	14, 801	673
1878	412, 007	928	26, 899	708	10, 596	482
1879	295, 539	666	18, 204	478	6, 523	269
1880	361, 061	813	22, 813	600	7, 248	329
1881	383, 225	863	24, 627	648	7, 009	319
1882	300, 685	677	23, 143	609	7, 629	347
1883	317, 779	716	21, 720	572	7, 791	354
1884	344, 458	775	22, 476	591	7, 436	338
1885	312, 976	704	23, 187	610	7, 502	341

(N.)—*Continued.*

YEAR.	CHEMUNG CANAL.		CROOKED LAKE CANAL.		CHENANGO CANAL.	
	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.
1826	....	....	....	....	....	....
1827	....	....	....	....	....	....
1828	....	....	....	....	....	....
1829	....	....	....	....	....	....
1830	....	....	....	....	....	....
1831	....	....	....	....	....	....
1832	....	....	....	....	....	....
1833	$4, 660	$766	....	....	....	....
1834	25, 366	692	$2, 653	$321	....	....
1835	9, 616	259	3, 566	445	....	....
1836	9, 665	261	4, 739	592	....	....
1837	14, 569	393	6, 214	776	$19, 508	$2[illegible]1
1838	13, 494	364	4, 454	556	20, 809	214
1839	13, 382	361	3, 557	444	17, 248	177
1840	12, 401	335	4, 501	562	15, 427	159
1841	23, 360	631	9, 034	1, 129	15, 563	160
1842	34, 524	932	8, 113	1, 014	18, 955	195
1843	14, 295	386	4, 047	205	15, 062	156
1844	12, 737	344	3, 951	495	15, 959	164
1845	17, 978	435	4, 765	595	18, 951	191
1846	14, 295	385	5, 309	663	18, 452	190

1847	$15, 917	$430	$5, 890	$736	$18, 859	$194
1848	27, 232	736	8, 516	1, 064	20, 901	215
1849	24, 306	657	10, 290	1, 286	25, 840	266
1850	33 230	852	5, 629	704	27, 181	280
1851	38, 669	991	5, 391	673	28, 612	295
1852	33, 200	848	8, 587	1, 073	36, 460	375
1853	24, 366	625	4, 932	616	38, 243	394
1854	30, 654	786	5, 132	641	49, 602	511
1855	23, 033	591	5, 077	635	49, 416	509
1856	17, 209	431	3, 647	456	13, 903	143
1857	87, 231	2, 237	4, 658	582	27, 826	287
1858	150, 605	3, 861	9, 803	1, 225	44, 114	455
1859	21, 965	563	4, 850	606	26, 069	269
1860	12, 431	519	4, 598	575	26, 934	278
1861	23, 455	601	6, 186	773	22, 594	233
1862	27, 024	693	7, 161	895	29, 086	300
1863	80, 583	2, 066	5, 142	643	31, 897	328
1864	29, 141	747	23, 696	2, 962	40, 845	421
1865	88, 398	2, 267	36, 201	4, 525	100, 451	1, 035
1866	49, 304	1, 264	7, 110	889	81, 132	836
1867	106, 625	2, 733	7, 396	924	104, 598	1, 078
1868	44, 932	1, 152	7, 216	902	64, 053	660
1869	37, 668	965	7, 585	948	48, 827	503
1870	29, 460	755	6, 903	863	86, 620	893
1871	91, 225	2, 339	74, 459	9, 307	122, 008	1, 259
1872	79, 733	1, 788	9, 820	1, 228	66, 405	648
1873	48, 494	1, 244	6, 777	847	47, 876	493
1874	28, 865	740	7, 659	957	38, 319	343
1875	13, 646	350	4, 185	523	18, 844	194

(N.)—*Continued.*

YEAR.	CHEMUNG CANAL.		CROOKED LAKE CANAL.		CHENANGO CANAL.	
	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.
1876	$8, 069	$209	$71	$9	$7, 950	$82
1877	14, 478	371	....	....	5, 938	61
1878	7, 626	195	....	....	1, 874	19
1879	3, 650	93	....	....	2, 012	21
1880	3, 949	....	....	....	1, 167	12
1881	....	....	....	....	1, 127	12
1882	....	....	....	....	250	....
1883	....	....	....	....	....	....
1884	....	....	....	....	....	....
1885	....	....	....	....	....	....

(N.) — *Continued.*

YEAR.	GENESEE VALLEY CANAL.		ONEIDA LAKE CANAL AND FEEDER.		ONEIDA RIVER IMPROVEMENT.	
	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.
1826	....	....	....	....	....	....
1827	....	....	....	....	....	....
1828	....	....	....	....	....	....
1829	....	....	....	....	....	....
1830	....	....	....	....	....	....
1831	....	....	....	....	....	....
1832	....	....	....	....	....	....
1833	....	....	....	....	....	....
1834	....	....	....	....	....	....
1835	....	....	....	....	....	....
1836	....	....	....	....	....	....
1837	....	....	....	....	....	....
1838	....	....	....	....	....	....
1839	....	....	....	....	....	....
1840	$4, 529	$152	....	....	....	....
1841	10, 468	290	$3, 370	....	....	....
1842	17, 749	341	3, 608	$561	....	....
1843	15, 210	292	2, 232	601	....	....
1844	15, 556	299	1, 636	372	....	....
1845	16, 901	325	1, 933	322	....	....
1846	17, 399	334	17, 875	2, 979	....	....

(N.) — *Continued.*

YEAR.	GENESEE VALLEY CANAL.		ONEIDA LAKE CANAL AND FEEDER.		ONEIDA RIVER IMPROVEMENT.	
	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.
1847	$15, 782	$303	$5, 842	$973	....	....
1848	66, 527	510	1, 855	309	....	....
1849	18, 192	349	2, 160	360	....	....
1850	18, 575	357	4, 892	815	$412	$21
1851	33, 136	868	3, 590	598	2, 250	112
1852	75, 572	839	6, 361	1, 060	2, 544	107
1853	55, 766	620	6, 166	1, 028	1, 544	77
1854	48, 093	534	10, 441	1, 740	3, 255	163
1855	46, 437	516	6, 236	1, 039	3, 913	196
1856	34, 371	381	2, 589	432	2, 482	124
1857	60, 650	505	3, 919	653	3, 591	179
1858	80, 911	674	4, 104	684	2, 797	139
1859	46, 490	366	3, 974	662	1, 079	54
1860	38, 518	304	4, 059	676	....	....
1861	28, 450	224	3, 252	540	....	....
1862	64, 711	210	2, 475	412	448	22
1863	49, 984	932	2, 375	395	....	....
1864	166, 226	1, 308	2, 543	424	....	....
1865	231, 902	1, 826	2, 366	394	1, 097	55
1866	93, 803	754	524	87	....	....
1867	93, 343	735	....	....	....	....

1868	72, 086	552	....	....	....	....
1869	83, 185	655	....	....	....	....
1870	215, 236	1, 695	....	....	....	....
1871	156, 946	1, 236	....	....	....	....
1872	185, 914	1, 464	....	....	....	....
1873	121, 863	959	....	....	....	....
1874	113, 292	892	....	....	....	....
1875	58, 764	463	....	....	....	....
1876	35, 932	204	....	....	....	....
1877	41, 281	325	....	....	....	....
1878	20, 205	242	....	....	....	....
1879	4, 451	34	....	....	....	....
1880	6, 367	....	....	....	....	....
1881	3, 521	....	....	....	....	....
1882	439	....	....	....	....	....
1883	....	....	....	....	....	....
1884	....	....	....	....	....	....
1885	....	....	....	....	....	....

(N.)—*Continued.*

YEAR	BLACK RIVER CANAL.		BALDWINSVILLE CANAL.		Total miles.	Total cost of repairs.	Total average per mile.
	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.			
1826	....	....	....	....	440	$182, 162	$414
1827	....	....	....	....	440	232, 472	528
1828	....	....	....	....	478	234, 483	490
1829	....	....	....	....	500	254, 433	509
1830	....	....	....	....	500	221, 005	442
1831	....	....	....	....	500	180, 733	361
1832	....	....	....	....	500	344, 917	690
1833	....	....	....	....	537	372, 789	694
1834	....	....	....	....	545	478, 964	879
1835	....	....	....	....	545	432, 115	793
1836	....	....	....	....	545	406, 122	745
1837	....	....	....	....	642	492, 144	766
1838	....	....	....	....	642	481, 754	750
1839	....	....	....	....	642	379, 769	591
1840	....	....	....	....	694	460, 866	664
1841	....	....	....	....	700	357, 828	511
1842	....	....	....	....	700	452, 559	646
1843	....	....	....	....	700	383, 076	547
1844	....	....	....	....	700	464, 330	663
1845	....	....	....	....	700	520, 452	743

1846	....	....	....	....	700	$510, 355	$729
1847	....	....	....	....	700	495, 524	709
1848	....	....	....	....	700	674, 777	964
1849	....	....	....	....	700	521, 122	744
1850	$15, 508	$398	....	....	762	626, 950	823
1851	22, 702	582	....	....	800	618, 808	773
1852	30, 611	785	....	....	800	853, 474	1, 066
1853	26, 830	688	....	....	800	789, 082	996
1854	28, 578	733	$5, 587	....	812	895, 737	1, 108
1855	33, 862	868	2, 373	$424	812	697, 006	981
1856	17, 204	441	422	198	855	616, 014	759
1857	13, 797	265	455	35	855	751, 873	879
1858	18, 622	358	2, 382	38	855	880, 184	1, 029
1859	24, 925	479	413	198	856	630, 615	737
1860	22, 287	237	....	34	866	356, 966	412
1861	23, 420	249	1, 070	....	878	360, 187	410
1862	20, 834	222	175	89	898	442, 817	493
1863	20, 455	217	72	15	898	555, 052	618
1864	21, 646	230	632	6	898	846, 624	942
1865	48, 488	516	499	53	898	1, 584, 648	1, 765
1866	46, 911	499	12, 810	42	898	1, 032, 824	1, 176
1867	42, 320	450	93	1, 067	898	906, 356	1, 010
1868	44, 664	369	....	8	898	775, 113	901
1869	67, 426	717	....	....	......	917, 696	1, 069
1870	217, 386	2, 313	....	....	......	1, 719, 357	1, 997
1871	88, 946	946	3, 600	300	......	1, 517, 583	1, 740
1872	87, 616	932	7, 787	649	......	1, 482, 804	1, 700
1873	59, 246	630	....	....	......	1, 195, 760	1, 371
1874	51, 076	....	4, 099	543	......	1, 157, 580	1, 177

(N.)—*Continued.*

YEAR.	BLACK RIVER CANAL.		BALDWINSVILLE CANAL.		Total miles.	Total cost of repairs.	Total average per mile.
	Cost of repairs.	Average per mile.	Cost of repairs.	Average per mile.			
1875	$45, 045	$480	....	....	......	$33, 432	$39
1876	39, 121	416	....	....	......	810, 707	943
1877	37, 930	403	....	....	......	855, 510	988
1878	32, 073	349	....	....	......	821, 282	608
1879	25, 417	276	....	....	......	555, 796	415
1880	26, 398	287	....	....	......	329, 003	501
1881	24, 946	271	....	....	......	444, 455	519
1882	31, 130	322	....	....	596	363, 275	610
1883	33, 770	367	....	....	596	381, 059	639
1884	32, 721	356	....	....	596	407, 091	681
1885	32, 253	351	....	....	596	375, 919	631

(O.)

STATEMENT of accounts expended for the repairs of old and the erection of new work on each division of the Erie canal by the superintendents from 1835 *to* 1885, *including payments to repair contractors from* 1855 *to* 1874, *and expenditures by resident engineers for repairs from* 1857 *to* 1860, *and also the amounts expended by the Canal Commissioners and the Superintendent of Public Works on said canal for repairs; the totals and the total average per mile from* 1835 *to* 1885.

YEAR.	Eastern Division.	Middle Division.	Western Division.	Total amount expended by superintendents, resident engineers and payments to repair contractors.	Total amount expended by the Canal Commmissioners, not including their salaries, and the Superintendent of Public Works.	Total amount expended by the Canal Commissioners, Superintendent of Public Works, superindents, engineers and payments to repair contractors.	Total average per mile.
1835	$152, 268 79	$53, 133 30	$137, 908 52	$343, 324 61	$9, 391 90	$352, 720 51	$928 21
1836	112, 949 46	34, 132 85	100, 010 94	247, 084 25	4, 119 21	251, 203 46	661 06
1837	123, 431 97	35, 971 35	135, 723 92	295, 127 24	3, 985 61	299, 113 85	787 14
1838......	106, 903 76	32, 895 60	167, 219 37	307, 018 73	1, 484 75	308, 504 48	811 85
1839......	99, 969 01	29, 556 92	101, 774 70	222, 300 63	1, 563 18	223, 863 81	589 12
1840......	149, 175 14	34, 594 83	108, 859 85	292, 626 82	5, 923 88	298, 550 70	785 66
1841......	100, 186 32	36, 175 58	77, 711 18	214, 073 08	3, 056 86	217, 129 94	571 39
1842......	125, 575 92	66, 771 18	82, 996 90	275, 314 07	7, 735 61	283, 049 68	744 87
1843......	116, 265 55	40, 054 88	102, 295 30	258, 575 73	27, 509 53	286, 085 26	752 86
1844	143, 216 77	47, 299 63	130, 656 90	321, 173 30	59, 047 25	380, 220 55	1, 000 58
1845	125, 857 03	70, 856 17	136, 833 21	332, 546 41	94, 061 24	426, 607 65	1, 122 63
1846	111, 859 80	59, 656 53	141, 197 40	316, 712 73	21, 531 47	338, 244 20	909 26
1847	119, 274 00	64, 071 85	150, 652 91	833, 998 76	15, 498 45	349, 496 21	939 50
1848	175, 715 59	95, 353 30	162, 861 89	433, 885 78	24, 566 23	458, 452 01	1, 232 40

(O.)— *Continued.*

YEAR.	Eastern Division.	Middle Division.	Western Division.	Total amount expended by superintendents, resident engineers and payments to repair contractors.	Total amount expended by the Canal Commissioners, not including their salaries, and the Superintendent of Public Work.	Total amount expended by the Canal Commissioners, Superintendent of Public Works, superintendents, engineers and payments to repair contractors.	Total average per mile.
1849	$135, 696 38	$59, 656 90	$142, 855 01	$338, 248 39	$4, 451 31	$342, 659 60	$921 12
1850	188, 772 86	39, 048 90	188, 304 11	416, 125 87	2, 805 98	418, 931 85	1, 123 13
1851	222, 702 54	38, 081 76	121, 584 00	383, 368 30	26, 288 30	408, 656 60	1, 095 59
1852	328, 889 80	52, 475 66	135, 572 72	516, 938 18	17, 572 42	534, 510 61	1, 433 00
1853	276, 164 51	51, 204 27	169, 445 06	496, 813 84	39, 707 35	536, 521 19	1, 438 39
1854	299, 637 03	66, 554 54	172, 567 17	538, 759 74	39, 054 17	577, 814 21	1, 549 10
1855	300, 330 21	27, 145 66	118, 760 68	448, 236 55	24, 693 26	472, 929 81	1, 267 88
1856	277, 441 66	33, 553 37	148, 496 12	409, 491 15	47, 191 65	426, 681 80	1, 224 35
1857	165, 869 16	46, 923 29	173, 043 61	285, 836 06	40, 144 07	425, 980 11	1, 141 88
1858	163, 997 32	45, 507 28	146, 815 01	356, 319 61	20, 317 64	367, 687 25	1, 010 55
1859	215, 745 52	24, 843 89	141, 280 79	381, 870 20	79, 584 14	561, 454 34	1, 233 83
1860	110, 314 76	19, 169 14	43, 502 70	172, 986 60	115, 179 58	288, 166 18	785 19
1861	103, 279 62	20, 915 87	54, 008 62	178, 204 12	126, 996 27	305, 200 39	831 61
1862	109, 081 53	24, 754 10	60, 728 47	194, 564 10	76, 185 77	270, 749 87	737 74
1863	148, 870 92	28, 474 96	93, 314 80	270, 660 68	69, 707 91	340, 368 59	927 43
1864	283, 423 86	56, 349 55	111, 247 18	451, 020 59	58, 757 58	509, 778 17	1, 389 01
1865	383, 427 90	59, 452 21	262, 571 36	706, 451 47	48, 865 92	755, 317 39	2, 058 08
1866	307, 860 86	46, 559 59	203, 465 95	557, 886 31	68, 588 06	626, 474 37	1, 707 01
1867	258, 438 23	25, 456 75	135, 334 36	419, 229 34	75, 641 81	494, 871 15	1, 348 40

1868	198, 689 37	22, 737 55	141, 398 55	362, 825 45	71, 498 60	434, 324 65	1, 180 72
1869	238, 851 68	28, 894 60	192, 348 49	460, 094 77	90, 130 40	550, 225 17	1, 499 55
1870	528, 954 56	95, 231 33	208, 368 16	832, 554 05	181, 004 72	1,013,558 77	2, 761 74
1871	396, 601 08	96, 866 72	242, 253 57	735, 721 37	145, 266 24	880, 987 61	3, 400 51
1872	427, 969 64	85, 676 10	272, 551 20	786, 196 94	237, 825 27	1,024,022 21	2, 790 25
1873	307, 165 10	110, 298 18	222, 487 78	639, 951 06	65, 143 77	705, 094 82	1, 937 07
1874	271, 201 62	99, 303 97	198, 440 64	568, 946 23	75, 355 99	644, 302 22	1, 770 06
1875	297, 237 07	58, 946 66	166, 295 62	522, 479 35	246, 400 31	768, 879 66	2, 112 32
1876	283, 282 55	68, 748 65	150, 197 45	503, 228 65	180, 262 75	683, 491 40	1, 862 37
1877	282, 460 53	86, 973 02	157, 562 23	526, 995 78	41, 664 56	568, 660 44	1, 536 92
1878	180, 551 76	43, 823 23	94, 962 00	319, 336 99	77, 508 38	396, 845 37	1, 061 08
1879	111, 803 77	33, 589 34	81, 625 86	227, 018 97	206, 334 49	433, 353 46	1, 158 70
1880	152, 595 98	30, 439 99	100, 198 07	283, 234 04	232, 571 66	515, 805 70	1, 379 16
1881	133, 824 22	49, 112 97	129, 986 01	312, 923 20	337, 536 97	650, 460 17	1, 739 20
1882	110, 144 46	32, 148 68	96, 959 10	239, 255 24	135, 731 15	374, 983 39	1, 202 63
1883	120, 472 06	36, 942 44	108, 381 65	265, 796 15	166, 026 45	431, 822 60	1, 154 60
1884	120, 090 14	43, 563 14	123, 641 56	287, 294 84	233, 232 98	520, 527 82	1, 391 76
1885	114, 775 21	31, 947 29	115, 325 10	262, 047 60	242, 772 07	504, 819 67	1, 349 80

(P.)

STATEMENT of the amounts expended for repairs of old and the erection of new work on the Champlain canal (including the Glens Falls feeder and dam), seventy miles, by the superintendent of repairs, the Canal Commissioners and Superintendent of Public Works, and the average cost per mile, from 1835 to 1885, *including expenditures by resident engineers, from* 1857 *to* 1861, *and payments to repair contractors, from* 1855 *to* 1875, *inclusive.*

YEAR.	Superintendents, resident engineers and repair contractors.	Canal Commissioners, Superintendent of Public Works, and engineers.	Superintendents, Canal Commissioners, superintendent of Public Works, engineers and repair contractors.	Average cost per mile.
1835	$49, 593 04	....	$49, 593 04	$825 55
1836	63, 098 84	....	63, 098 84	1, 051 65
1837	70, 279 51	$48, 236 29	119, 515 80	1, 991 93
1838	67, 694 77	71, 652 50	139, 347 27	2, 322 45
1839	75, 422 15	40, 344 36	115, 760 72	1, 929 45
1840	71, 665 19	14, 566 70	86, 222 39	1, 437 04
1841	41, 614 14	24, 621 34	76, 235 48	1, 270 59
1842	47, 040 33	92, 680 90	139, 721 23	2, 228 69
1843	39, 038 61	17, 237 90	56, 276 51	937 94
1844	50, 276 03	4, 566 33	54, 842 36	915 40
1845	66, 548 56	2, 212 29	69, 760 85	1, 162 68
1846	64, 471 65	452 58	54, 924 23	915 40
1847	46, 389 35	1, 406 64	47, 795 77	702 88
1848	70, 067 12	250 00	70, 317 12	1, 034 07
1849	57, 472 77	34 00	57, 506 71	845 69

1850	62, 823 86	....	62, 823 86	807 48
1851	50, 966 83	13, 539 15	64, 505 98	948 62
1852	75, 519 01	30, 390 89	109, 909 90	1, 557 50
1853	78, 968 36	5, 321 78	84, 285 14	1, 236 49
1854	72, 582 41	6, 724 85	79, 307 26	1, 166 28
1855	90, 383 21	12, 175 28	102, 558 49	1, 508 21
1856	45, 374 20	5, 770 29	51, 144 49	752 12
1857	72, 640 31	200 00	72, 840 31	1, 071 18
1858	81, 059 16	....	81, 069 16	1, 191 31
1859	64, 875 77	9, 947 25	74, 823 01	1, 100 34
1860	56, 020 96	5, 954 84	61, 975 80	914 41
1861	28, 747 80	6, 949 27	35, 697 07	524 96
1862	46, 087 54	18, 739 51	64, 827 05	953 34
1863	52, 964 46	11, 491 81	66, 456 27	947 89
1864	68, 484 78	2, 008 24	70, 493 02	1, 000 04
1865	110, 208 99	1, 159 50	111, 360 49	1, 637 77
1866	107, 282 25	2, 725 16	110, 007 41	1, 617 75
1867	69, 940 75	2, 639 26	72, 580 01	1, 067 35
1868	80, 751 12	24, 857 32	105, 608 44	1, 508 69
1869	149, 141 15	37, 259 97	186, 461 12	2, 741 18
1870	251, 824 62	86, 315 78	338, 140 40	4, 972 65
1871	162, 949 82	70, 642 37	233, 592 19	3, 337 03
1872	157, 177 82	82, 122 68	239, 300 50	3, 418 57
1873	148, 814 37	66, 739 28	215, 553 65	3, 169 91
1874	151, 718 59	24, 232 40	175, 950 99	2, 587 51
1875	144, 029 88	5, 239 85	149, 269 73	2, 102 39
1876	149, 574 04	325 00	149, 899 04	2, 204 39
1877	162, 680 31	1, 970 33	164, 650 64	2, 319 02
1878	92, 670 55	6, 590 72	99, 261 27	1, 418 02

(*P.*)—*Continued.*

YEAR.	Superintendents, resident engineers, and repair contractors.	Canal Commissioners, Superintendent of Public Works, and engineers.	Superintendents, Canal Commissioners, superintendent of Public Works, engineers and repair contractors.	Average cost per mile.
1879	$68, 519 84	$27, 161 16	$95, 681 00	$1, 366 87
1880	77, 827 02	39, 344 65	117, 171 67	1, 673 88
1881	70, 301 76	38, 872 71	109, 174 47	1, 559 63
1882	61, 432 29	13, 338 15	74, 770 44	1, 068 15
1883	51, 982 35	16, 708 63	68, 690 98	981 29
1884	57, 163 89	66, 683 41	123, 847 30	1, 769 25
1885	50, 928 48	144, 272 76	195, 201 24	2, 788 74

(Q.)

STATEMENT showing the expenditures for repairs by the superintendents, resident engineers and Canal Commissioners and Superintendent of Public Works, including payments to repair contractors for twenty-two years, ending with 1885.

NAME.	1864.	1865.	1866.	1867.	1868.
Erie canal, eastern division...	$304, 729 79	$394, 016 93	$337, 661 90	$291, 193 07	$127, 711 10
Erie canal, middle division...	70, 420 36	73, 365 21	74, 710 76	57, 647 68	44, 941 47
Erie canal, western division..	134, 628 02	287, 935 26	214, 101 71	146, 030 40	161, 671 48
	$509, 778 17	$755, 317 39	$626, 474 37	$494, 971 15	$434, 324 05
Champlain canal............	70, 493 02	111, 368 49	110, 007 44	72, 580 01	105, 608 44
Oswego canal..............	31, 799 13	303, 549 05	164, 463 34	156, 518 36	103, 279 92
Cayuga and Seneca canal.....	17, 292 76	20, 364 10	16, 604 93	19, 642 86	20, 758 32
Chemung canal.............	63, 500 33	100, 442 52	72, 991 88	129, 367 90	60, 386 35
Crooked Lake canal.........	37, 143 57	36, 461 32	7, 283 13	7, 636 64	7, 597 85
Chenango canal............	78, 967 87	136, 584 06	114, 856 41	193, 128 01	146, 359 48
Genesee Valley canal........	168, 841 31	233, 621 41	100, 417 32	98, 112 97	95, 347 28
Oneida Lake canal and feeder.	5, 077 87	7, 792 21	4, 166 72	68 92	....
Oneida River improvement...	....	1, 097 09	....	....	....
Black River canal	18, 648 86	57, 963 33	51, 083 36	42, 518 54	35, 396 23
Black River improvement....	4, 193 47	....	....	....	....
Baldwinsville canal..........	948 67	499 00	12, 810 29	93 32	1, 708 00
Seneca River improvement...	....	....	....	....	....
Cayuga inlet..............	....	....	930 53	....	....
Total.................	$1, 006, 694 03	$1, 765, 059 97	$1, 282, 089 69	$1, 214, 538 38	$1, 010, 765 92

(Q.)—*Continued.*

NAME.	1869.	1870.	1871.	1872.	1873.
Erie canal, eastern division...	$276, 187 17	$635, 684 45	$482, 627 28	$577, 422 05	$337, 378 87
Erie canal, middle division...	46, 464 59	113, 031 52	128, 069 22	111, 132 55	130, 828 44
Erie canal, western division...	227, 573 41	264, 842 80	270, 291 11	335, 467 61	236, 887 52
	$550, 225 17	$1,013, 558 77	$880, 898 61	$1,024, 022 21	$705, 094 83
Champlain canal............	186, 401 12	338, 140 40	223, 597 19	239, 300 50	215, 553 65
Oswego canal...............	116, 307 10	53, 564 78	59, 911 92	155, 418 59	119, 030 72
Cayuga and Seneca canal... .	21, 860 04	51, 707 82	37, 563 09	31, 401 56	30, 164 37
Chemung canal.....	38, 191 06	53, 427 99	95, 115 69	81, 956 70	49, 946 41
Crooked Lake canal.........	8, 009 18	6, 903 12	75, 387 96	10, 670 29	6, 777 10
Chenango canal.............	52, 965 78	142, 659 90	188, 019 85	103, 286 27	49, 092 92
Genesee Valley canal........	136, 650 12	233, 064 44	161, 488 06	189, 995 58	122, 368 41
Oneida Lake canal and feeder.	....	....	....	....	....
Oneida River improvement...	....	....	....	....	....
Black River canal...........	68, 162 10	241, 785 65	107, 078 76	88, 116 61	60, 843 77
Black River improvement....	....	....	....	....	....
Baldwinsville canal..........	....	....	3, 600 00	7, 789 84	....
Seneca River improvement...	....	....	....	....	....
Cayuga inlet...............	....	....	....	....	....
Total.................	$1,178,771 67	$2,134,812 87	$1,832,730 23	$1,931,967 15	$1,358,872 18

Q. — *Continued.*

NAME.	1874.	1875.	1876.	1877.	1878.
Erie canal, eastern division ...	$296, 916 74	$487, 848 79	$401, 084 49	$301, 738 73	$205, 267 90
Erie canal, middle division...	126, 235 15	82, 004 74	86, 806 04	100, 096 49	73, 156 94
Erie canal, western division ..	221, 150 33	198, 936 03	195, 600 87	166, 825 22	118, 420 53
	$644, 302 22	$768, 879 66	$683, 491 40	$568, 660 44	$396, 845 37
Champlain canal............	175, 950 99	149, 269 73	149, 899 04	164, 650 64	99, 261 27
Oswego canal...............	90, 377 58	73, 409 27	51, 842 83	55, 492 87	29, 710 38
Cayuga and Seneca canal.....	27, 280 63	22, 065 04	23, 291 61	17, 499 89	13, 482 69
Chemung canal..............	29, 845 51	16, 061 48	11, 008 86	14, 478 25	8, 752 81
Crooked Lake canal.........	11, 921 51	4, 185 45	71 02	....	716 36
Chenango canal.............	34, 134 75	19, 139 27	7, 977 34	7, 252 36	3, 097 25
Genesee Valley canal	115, 734 40	63, 075 78	40, 207 25	41, 832 17	31, 329 71
Oneida Lake canal and feeder.	....	....	....	....	1, 583 60
Oneida River improvement...	....	....	....	....	....
Black River canal..........	52, 990 96	49, 163 93	39, 570 60	38, 040 74	35, 581 60
Black River improvement....	....	....	....	....	....
Baldwinsville canal.........	4, 098 63	....	....	....	....
Seneca River improvement. ..	....	....	....	....	....
Cayuga inlet...............	....	....	....	....	....
Total..............	$1,186,637 18	$1,165,249 61	$1,007,359 95	$907, 907 36	$620, 361 04

(Q.) — *Continued.*

NAME.	1879.	1880.	1881.	1882.	1883.
Erie canal, eastern division....	$151,506 42	$232,497 15	$257,761 89	$161,356 17	$195,778 53
Erie canal, middle division ...	91,800 36	83,241 32	109,484 20	75,868 60	72,186 49
Erie canal, western division...	141,580 47	200,067 23	283,214 08	137,758 62	163,857 58
	$384,887 25	$515,805 70	$650,460 17	$374,983 39	$431,822 60
Champlain canal............	118,209 11	117,171 67	109,174 47	74,770 44	68,690 98
Oswego canal..............	26,577 49	35,223 05	40,588 83	28,702 76	28,224 29
Cayuga and Seneca canal......	10,336 29	10,449 28	15,043 22	9,991 88	10,783 05
Chemung canal.............	4,900 15	5,882 59	6,103 47	....	....
Crooked Lake canal..........	....	....	....	....	....
Chenango canal.............	9,863 06	5,990 23	4,344 39	3,083 67	2,717 07
Genesee Valley canal........	8,860 33	14,643 99	3,521 44	668 27	....
Oneida Lake canal and feeder.	3,921 05	430 32	....	....	....
Oneida River improvement....	....	....	....	....	....
Black River canal...........	41,207 00	50,411 52	70,585 90	44,350 99	48,130 99
Black River improvement....	....	....	....	....	....
Baldwinsville canal..........	....	....	....	....	....
Seneca River improvement....	....	....	....	....	....
Cayuga inlet...............	....	....	....	....	....
Total..................	$608,761 73	$756,008 35	$899,821 89	$536,552 00	$590,368 98

(Q.) — *Continued.*

NAME.	1884.	1885.
Erie canal, eastern division	$219,816 05	$235,962 21
Erie canal, middle division	105,675 61	84,758 01
Erie canal, western division	195,036 16	184,099 45
	$520,527 82	$504,819 67
Champlain canal	123,847 30	62,549 49
Oswego canal	32,957 53	32,327 48
Cayuga and Seneca canal	10,026 24	13,968 95
Chemung canal	....	....
Crooked Lake canal	....	....
Chenango canal	4,324 20	3,683 77
Genesee Valley canal	....	....
Oneida Lake canal and feeder	....	....
Oneida River improvement	....	....
Black River canal	50,691 68	46,701 95
Black River improvement	....	....
Baldwinsville canal	....	....
Seneca River improvement	....	....
Cayuga inlet	....	....
Total	$742,374 77	$664,051 31

STATE OF NEW YORK.

No. 77.

IN ASSEMBLY,

MARCH 4, 1886.

LIST OF GENERAL ORDERS.

G. O.

300. Int. 656. An act in relation to unpaid taxes, assessments, water rates and rents in Long Island City, and to collect the same and to insure a more efficient collection of the same in the future. (Recommitted to the Committee on Affairs of Cities.)

301. Int. 145. An act to amend the Code of Civil Procedure.

302. Int. 658. An act to amend section 697 of the Penal Code.

303. Int. 81. An act to provide for the incorporation of credit, guaranty and indemnity companies.

304. Int. 643. An act amendatory of chapter 156 of the Laws of 1857, incorporating the Malone Water-Works Company, and authorizing said company to increase its capital stock and to contract with the village of Malone for a supply of water.

305. Int. 645. An act in relation to the purchase, sale and delivery of stocks, bonds, merchandise and other personal property. (Recommitted to the Committee on the Judiciary).

306. Int. 43. (Senate.) An act to authorize the Sheltering Arms to take, receive and hold real or personal property by devise or bequest.

307. Int. 95. An act to consolidate and reduce the number of bureaus in the department of public works in the city of New York and define the duties thereof. (Recommitted to Committee on the Affairs of Cities).

308. Int. 629. An act to amend section 7 of chapter 450 of the Laws of 1881, entitled "An act to secure the registration of plumbers and the supervision of plumbing and drainage in the cities of New York and Brooklyn." (Recommitted to the Committee on Affairs of Cities.)

G. O.

309. Int. 684. An act authorizing and requiring the board of commissioners of the Washington Park of the city of Albany to acquire real estate on the west side of South Pearl street, in the city of Albany, for the purpose of a public park.

310. Int. 454. An act to abolish the office of chamberlain in the city of New York, and to create an office of city treasurer, and relative to the board of estimate and apportionment. (Recommitted to the Committee on Affairs of Cities.)

311. Int. 98. An act to make the board of park commissioners of the city of New York non-partisan, and to authorize the payment of a salary to each of said commissioners. (Recommitted to the Committee on Affairs of Cities.)

312. Int. 500. An act to confirm and legalize certain contracts in the city of Albany.

313. Int. 97. An act relating to the counsel to the corporation of the city of New York. (Recommitted to the Committee on Affairs of Cities.)

314. Int. 501. An act in relation to certain street improvements and sewers in the city of Albany, to legalize, confirm and levy certain assessments therefor, and to legalize and confirm sales thereunder.

315. Int. 503. An act to amend an act entitled "An act to provide for the government of the city of Albany, passed April 23, 1883, and to provide for the repayment of certain moneys by the city of Albany to the county of Albany."

316. Int. 690. An act to amend chapter 256 of the Laws of 1866, entitled "An act to amend an act entitled 'An act to incorporate the Society for the Protection of Destitute Roman Catholic Children at the city of Buffalo,'" as amended by chapter 567 of the Laws of 1881.

317. Int. 402. An act for the relief of Simon Donovan.

318. Int. 628. An act to amend chapter 485 of the Laws of 1881, entitled "An act to amend and supplementary to chapter 606 of the Laws of 1875, entitled 'An act further to provide for the construction and operation of a steam railway or railways in the counties of the State," as amended by chapter 417 of the Laws of 1880. (Recommitted to the Committee on Affairs of Cities.)

319. Int. 685. An act to amend chapter 298 of the Laws of 1883, entitled "An act to provide for the government of the city of Albany."

320. Int. 12. An act to improve the Riverside park, at and adjacent to Ninety-sixth street in the city of New York. (Recommitted to the Committee on Affairs of Cities.)

G. O.

321. Int. 66. An act to open and extend One Hundred and Fifteenth, One Hundred and Sixteenth, One Hundred and Seventeenth, One Hundred and Eighteenth, One Hundred and Nineteenth and One Hundred and Twentieth streets between Tenth avenue and the Boulevard in the city of New York. (Recommitted to the Committee on Affairs of Cities.)

322. Int. 686. An act to amend the act entitled "An act to provide for the government of the city of Albany," passed April 23, 1883.

323. Int. 50. An act to amend chapter 173 of the Laws of 1883, entitled "An act to incorporate the fund for the relief of disabled firemen of the city of Albany," as amended by chapter 332 of the Laws of 1885.

324. Int. 42. (Senate.) An act further to amend chapter 863 of the Laws of 1873, entitled "An act to amend the charter of the city of Brooklyn and the various amendments thereof."

325. Int. 31. (Senate.) An act to amend chapter 519 of the Laws of 1870, entitled "An act to revise the charter of the city of Buffalo, and the acts amendatory thereof."

326. Int. 638. An act in relation to the sale of tickets on the elevated railroads in the city of New York.

327. Int. 601. An act to amend chapter 252 of the Laws of 1884, entitled "An act to provide for the construction, extension, maintenance and operation of street surface railroads and branches thereof in cities, towns and villages." (Recommitted to the Committee on Railroads.)

328. Int. 508. An act concerning the obstruction of highways by any railroad corporation, its agents or servants for more than five minutes at one time, and fixing a penalty for the violation thereof.

329. Int. 593. An act to relieve certain railroad companies from the obligation of operating their road under certain conditions during the winter season.

330. Int. 40. (Senate.) An act to authorize railroad commissioners to issue town bonds in place of bonds lost or destroyed.

331. Int. 657. An act to establish and settle the bulk-head and pier line along the East river at Long Island City, and Ravenswood in the port of New York. (Recommitted to the Committee on Commerce and Navigation.)

332. Int. 479. An act in relation to the Eureka Basin Warehouse and Manufacturing Company of Long Island. (Recommitted to the Committee on Commerce and Navigation.)

G. O.

333. Int. 453. An act to repeal chapter 259 of the Laws of 1882, passed June 1, 1882, entitled "An act to provide for additional ferry slips and facilities in New York city, for the ferries operated and running between Whitehall street in the city of New York and the city of Brooklyn."

334. Int. 423. An act relative to the election of directors of town insurance companies carrying on business pursuant to the provisions of chapter 739 of the Laws of 1857 and chapter 305 of the Laws of 1881.

335. Int. 661. An act giving the board of trustees of the village of Morristown, in the county of St. Lawrence, power to lease and regulate certain ferries in said village.

336. Int. 492. An act to amend and revise sections 1 and 2 of title 4 of chapter 549 of the Laws of 1884, entitled "An act to amend and revise chapter 65 of the Laws of 1859, entitled 'An act to revise and consolidate the act to incorporate the village of Hoosick Falls and the several acts amending the same.'"

337. Int. 555. An act in relation to the employment of convicts in the State prisons.

338. Int. 154. An act to amend chapter 555 of the Laws of 1864, entitled "An act to revise and consolidate the general acts relating to public instruction and chapter 567 of the Laws of 1875, amendatory thereof."

STATE OF NEW YORK.

No. 78.

IN ASSEMBLY,

MARCH 5, 1886.

LIST OF GENERAL ORDERS.

G. O.

339. Int. 744. An act making an appropriation for work on the capitol buildings, constituting a commissioner of construction and a board of advisory commissioners, and regulating their respective powers and duties.

340. Int. 397. An act for the erection of a State armory in the county of Niagara and making an appropriation therefor.

341. Int. 126. An act to amend section 3 of chapter 471 of the Laws of 1853, entitled "An act to provide for the incorporation and regulation of telegraph companies," passed April 12, 1848; passed June 29, 1853. (Recommitted to the Committee on Ways and Means.)

342. Int. 459. An act to provide for the maintenance of armories erected by the State in certain counties, and to limit the expense thereof chargeable to the State.

343. Int. 654. An act to regulate the manufacture and sale of fertilizers. (Recommitted to the Committee on Ways and Means.)

344. Int. 696. An act to revise and amend chapter 379 of the Laws of 1879, entitled "An act prescribing the officers and employees that may be elected, appointed or employed by the Senate and Assembly, fixing the salary and compensation thereof, and regulating the proceedings of investigating committees, and providing for the payment of the expenses thereof." (Recommitted to the Committee on Ways and Means.)

345. Int. 322. An act for the improvement of the Hudson river and to make an appropriation therefor.

346. Int. 321. An act confirming jurisdiction upon the Board of Claims to hear, audit and determine the claim of James and Jno. Tyrrell against the State.

G. O.

347. Int. 367. An act entitled "An act authorizing the trustees of the Binghamton Asylum for the Chronic Insane, to appoint additional assistant physicians."

348. Int. 33. (Senate.) An act appropriating moneys to pay for the completion of two buildings on grounds of the Binghamton Asylum for Chronic Insane, provided to be erected by chapter 525, Laws of 1885.

349. Int. 647. An act to regulate the rental or charges for burglar alarm service. (Recommitted to the Committee on the Judiciary.)

350. Int. 699. An act in relation to liens for labor on logs, timber, cedar posts, railroad ties, telegraph poles, tan bark, shingle bolts or staves. (Recommitted to the Committee on the Judiciary.)

351. Int. 258. An act entitled "An act to legalize the acts of Greenwood Cemetery Association of Wilson, Niagara county."

352. Int. 631. An act to abolish costs in certain cases. (Recommitted to the Committee on the Judiciary.)

353. Int. 695. An act limiting the issue of stock and the creation of liens by incorporated companies. (Recommitted to the Committee on the Judiciary.)

354. Int. 676. An act to incorporate the Niagara River Hydraulic Tunnel, Power and Sewer Company of Niagara Falls, New York.

355. Int. 47. An act to provide for payment of the expense of certain proceedings for the judicial determination of the title to the office of coroners of the county of Westchester."

356. Int. 719. An act to amend an act entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York," passed July 1, 1882. (Recommitted to the Committee on the Judiciary.)

357. Int. 667. An act to amend section 376 of the Penal Code.

358. Int. 609. An act to amend section 1592 of the Code of Civil Procedure.

359. Int. 234. An act to amend chapter 647 of the Laws of 1872, entitled "An act to incorporate the Shelter Island Grove and Camp Meeting Association of the M. E. Church."

360. Int. 524. An act to amend chapter 554 of the Laws of 1881, entitled "An act to amend chapter 365 of the Laws of 1880, entitled 'An act to amend chapter 482 of the Laws of 1875, entitled An act to confer on boards of supervisors further

G. O.

power of local legislation and administration, and to regulate the compensation of supervisors.'" (Recommitted to the Committee on General Laws.)

361. Int. 548. An act to amend chapter 482 of the Laws of 1875, entitled "An act to confer on boards of supervisors further powers of local legislation and administration, and to regulate their compensation and also to extend and fix their official term of supervisors."

362. Int. 452. An act to amend chapter 611 of the Laws of 1875, entitled "An act to provide for the organization and regulation of certain business corporations."

363. Int. 721. An act to amend chapter 410 of the Laws of 1882, entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York."

364. Int. 723. An act relating to the appointment of certain officers whose salaries are paid from the treasury of the city of New York (Recommitted to the Committee on Affairs of Cities.)

365. Int. 725. An act relating to the administration of the local government of the city of New York. (Recommitted to the Committee on Affairs of Cities.)

366. Int. 724. An act in relation to certain actions against the mayor, aldermen and commonalty of the city of New York. (Recommitted to the Committee on Affairs of Cities.)

367. Int. 727. An act in relation to the government of the city of New York. (Recommitted to the Committee on Affairs of Cities.)

368. Int. 726. An act to provide for the election of certain municipal officers in the city of New York. (Recommitted to the Committee on Affairs of Cities.)

369. Int. 174. An act to regulate the salaries of certain members of the fire department of the city of Buffalo.

370. Int. 347. An act to provide for the settlement of certain intestate estates in the hands of the public administrator in the city of New York.

372. Int. 529. An act to amend chapter 230 of the Laws of 1884, entitled "An act to authorize and enable the county of Kings for the care, custody and relief of its poor and insane, to purchase, erect and maintain, outside of the limits of said county, a farm and buildings, and to issue bonds to meet the expense thereof. (Recommitted to the Committee on Affairs of Cities.)

G. O.

373. Int. 604. An act to provide for the payment of certain claims for work done and material furnished in constructing the Amsterdam water works. (Recommitted to the Committee on the Affairs of Cities.)

374. Int. 691. An act to facilitate the supply of illuminating gas in the city of New York at a reasonable price.

375. Int. 519. An act to amend chapter 393 of the Laws of 1882, entitled "An act to amend chapter 606 of the Laws of 1875, entitled 'An act further to provide for the construction and operation of a steam railway or railways in the counties of the State.'"

376. Int. 573. An act to amend chapter 405 of the Laws of 1882, entitled "An act in relation to railroad corporations."

377. Int. 498. An act in relation to railroad corporations.

378. Int. 641. An act to amend an act entitled "An act to provide for the construction, extension, maintenance and operation of street surface railroads and branches thereof in cities, towns and villages," passed May 6, 1884. (Recommitted to the Committee on Railroads.)

379. Int. 644. An act in relation to employees on surface railroads in the cities of this State having a population of over 500,000. (Recommitted to the Committee on Railroads.)

380. Int. 672. An act to amend chapter 257 of the Laws of 1864, entitled "An act to revise and consolidate the laws in relation to the village of Ithaca, in the county of Tompkins." (Recommitted to the Committee on the Affairs of Villages.)

381. Int. 694. An act to provide a system of sewerage for the village of Fulton. (Recommitted to the Committee on the Affairs of Villages.)

382. Int. 616. An act to authorize the villages of the State of New York owning water-works constructed pursuant to the provisions of chapter 181 of the Laws of 1875, to extend their water mains beyond their corporate limits. (Recommitted to the Committee on the Affairs of Villages.)

383. Int. 731. An act to amend chapter 65 of the Laws of 1871, entitled "An act to revise and consolidate the laws in relation to the village of Geneva, in the county of Ontario, and amendments thereto," passed June 9, 1874 and May 15, 1882.

384. Int. 595. An act relating to the practice of medicine and surgery. (Recommitted to the Committee on Public Health.)

385. Int. 417. An act respecting the cutting and sale of ice in cities of this State, and giving to boards of health in such cities

G. O.

power to regulate and control the same. (Recommitted to the Committee on Public Health.)

386. Int. 489. An act to amend chapter 270 of the Laws of 1885 entitled "An act for the preservation of the public health and the registration of vital statistics." (Recommitted to the Committee on Public Health.)

387. Int. 235. An act to amend section 9 of title 1 of chapter 555 of the Laws of 1864, entitled "An act to revise and consolidate the general acts relating to public instruction."

388. Int. 751. An act to amend chapter 555 of the Laws of 1864, entitled "An act to revise and consolidate the several acts relating to public instruction," as amended by chapter 492 of the Laws of 1881.

389. Int. 516. An act to punish and prevent fraud in the sale of grain, seed and other cereals.

390. Int. 187. An act in relation to the improvement commissioners of the town of New Lots, in Kings county.

391. Int. 782. An act making appropriations for certain expenses of government, and supplying deficiencies in former appropriations. (Special order, Wednesday evening, March 10.)

392. Int. 562. An act to amend chapter 354 of the Laws of 1884, entitled "An act to provide for the care, transportation and commitment, and the payment therefor of lunatics, idiots, persons of unsound mind, deaf-mutes, orphans and paupers, the expense of whose maintenance and transportation is a charge upon the county of Albany, and to define the duties of the superintendent of the alms-house in the city of Albany."

393. Int. 51. (Senate.) An act to amend chapter 352 of the Laws of 1854, entitled "An act in relation to the village of Canandaigua, and enlarging the powers and duties of the trustees of said village."

394. Int. 121. (Senate.) An act to amend chapter 157 of the Laws of 1882, entitled "An act to amend chapter 176 of the Laws of 1872, entitled 'An act in relation to the village of Canandaigua, and to provide a police justice and police constables in said village, and defining their powers and duties,' and acts amendatory thereof."

395. Int. 48. An act enabling the Kings County Pharmaceutical Society to establish a college of pharmacy in the city of Brooklyn, New York.

STATE OF NEW YORK.

No. 79.

IN ASSEMBLY,

March 5, 1886.

ANNUAL REPORT

OF THE STATE ENGINEER AND SURVEYOR ON COMPANIES NAVIGATING LAKES AND RIVERS, AND OF BRIDGE COMPANIES.

Hon. James W. Husted, *Speaker of the Assembly :*

Sir — I have the honor to transmit the Annual Report of the State Engineer and Surveyor on companies navigating lakes and rivers, and of bridge companies for the year 1885.

Very respectfully,

E. SWEET,

State Engineer and Surveyor.

REPORT.

Office of the State Engineer and Surveyor,
Albany, *March* 4, 1886.

To the Honorable the Legislature of the State of New York:

In accordance with the requirements of section 25 of chapter 232, Laws of 1854, entitled "An act for the incorporation of companies formed to navigate the lakes and rivers," the State Engineer and Surveyor respectfully

Reports

That the following named companies have reported to this department as required by said act:

No.	Names of Companies.	Report filed.
1.	Canal and Lake Steamboat Co	January 11, 1886.
2.	Catskill and Albany Steamboat Co	January 15, 1886.
3.	Citizens' Steamboat Co.	January 22, 1886.
4.	Crooked Lake Navigation Co	January 16, 1886.
5.	Eastern Transportation Line	January 21, 1886.
6.	Hudson River Line	January 16, 1886.
7.	Iron Line	January 7, 1886.
8.	Keuka Navigation Co	January 22, 1886.
9.	Lake George Steam Yacht Co	January 13, 1886.
10.	New York and Hudson Steamboat Co	January 18, 1886.
11.	New York and Lake Champlain Trans. Co.	January 13, 1886.
12.	New York Lighterage and Trans. Co	January 26, 1886.
13.	New York and Saugerties Trans. Co	January 22, 1886.
14.	Port Chester Transportation Co	January 4, 1886.
15.	Rockaway Beach Pier Co	Decem'r 24, 1885.
16.	Seneca Lake Steam Transportation Co.	January 15, 1886.
17.	Thousand Island Steamboat Co	January 4, 1886.
18.	Zulia Steam Navigation Co	March 5, 1886.

Also the following named bridge companies have reported to this office:

No.	Names of Companies.	Reports filed.
1.	Halfmoon Bridge Co	January 15, 1886.
2.	Hales' Eddy Bridge Co	Febru'y 23, 1886.
3.	Middleburg Bridge Co	January 9, 1886.
4.	Rexford Flats Bridge Co	January 30, 1886.
5.	Sidney Bridge Co	January 6, 1886.

No. 1.

CANAL AND LAKE STEAMBOAT COMPANY.

To the State Engineer and Surveyor of the State of New York :

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) H. P. LINNELL, *Treasurer.*

STATE OF PENNSYLVANIA,
Philadelphia City and County, } *ss.:*

I, H. P. Linnell, treasurer of the Canal and Lake Steamboat Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) H. P. LINNELL, *Treasurer.*

Subscribed and sworn to in said city and county, before me, a commissioner of the State of New York, resident in said city and county, 8th day of January, 1886. Witness my hand and official seal at said city and county, this 8th day of January, A. D., 1886.

CHARLES CHAUNCEY, *Commissioner, of New York.*

Amount of capital stock by charter	$70,000 00
Consisting of 700 shares of $100 each.	
Amount of stock subscribed for	70,000 00
Amount paid in at time of organization	70,000 00
Amount now paid in	70,000 00

Number of boats as follows:

Steamboats (canal)	8	
Canal boats (consorts)	8	
Total		16

The steamers carry about 213 and the consorts about 249 net tons.

Business of the company is transacted upon the following waters:

The Erie canal and the Hudson river and the navigable waters connected with them.

Average number of employees during the year.........	52
Gross receipts for freight............................	$34.331 67
Gross receipts from other sources....................	1,978 51

There has been paid on account of freight lost.........	$713 19

Amount charged to depreciation of property to February 28, 1885..	$7,377 98

The principal office of the company is located at Clarkstown, county of Rockland, N. Y.

The names of the officers of this company are as follows:

Directors — Joseph D. Potts, Frank J. Firth, H. P. Linnell.

President — Frank J. Firth.

Treasurer and Secretary — H. P. Linnell.

Superintendent — James Carey Evans.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) H. P. LINNELL, *Treasurer.*

Communications to this company should be addressed as follows:

The Canal and Lake Steamboat Co., No. 234 South Fourth street, Philadelphia, Penn.

No. 2.

CATSKILL AND ALBANY STEAMBOAT COMPANY.

OFFICE OF THE IRON LINE,
F. GRUBE, *Sec'y and Treas.*, F. W. STARK, *Pres.*
33 COENTIES SLIP, NEW YORK, *January* 5, 1886.

To the State Engineer and Surveyor of the State of New York:

DEAR SIR — In regard to this company, which was incorporated January 15, 1885, and whose business for said season or to date was transferred to and done by the New York and Lake Champlain Transportation Company, we beg leave to report that there are no debts against this company nor any earning to report, as business was transferred. Should any further report be needed, please let us know the nature of it, or send a blank form that may be needed.

Yours respectfully,
F. GRUBE,
Secretary and Treasurer.

No. 3.

CITIZENS' STEAMBOAT COMPANY OF TROY.

To the State Engineer and Surveyer of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) THOMAS D. ABRAMS,
Treasurer.

STATE OF NEW YORK, } *ss.:*
Rensselaer County, }

I, Thomas D. Abrams, treasurer of the Citizens' Steamboat Company of Troy, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) THOMAS D. ABRAMS,
Treasurer.

Subscribed and sworn to before me, }
this 21st day of January, 1886. }
GEORGE W. LEVICK, *Notary Public,* (33)
New York county.

Amount of capital stock by charter	$250,000 00
Consisting of 2,500 shares of $100 each.	
Amount of stock subscribed for	250,000 00
Amount paid in at time of organization	250,000 00
Amount now paid in	250,000 00
Floating debt as follows:	
Secured by personal mortgage	175,000 00

Steamers Saratoga and City of Troy, estimated value	$450,000 00

Number of boats as follows:	
Steamboats	3

Tonnage:	
Saratoga	1,291.55
City of Troy	1,380.45
Belle Horton	224.95

Business of the company is transacted in the following waters: Hudson river and New York bay.

Average number of employees during the year.........	225
Gross receipts for freight............................	$94,533 59
Gross receipts from other sources......................	125,199 88

Dividends have been paid as follows:

Cash dividend of five per cent on 2,500 shares of capital stock..	$12,500 00
There has been paid on account of freight lost and damaged	390 62

The principal office of the company is located at Troy, county of Rensselaer, N. Y.

The names of the officers of this company are as follows:

Directors — J. Cornell, T. D. Abrams, G. W. Horton, N. B. Squires, H. H. Darling, C. L. MacArthur, H. K. Thurber, Wm. Kemp, B. F. Stiles, A. M. Church, C. H. Garrison, D. M. Greene, C. K. Brown.

President and Superintendent — Jos. Cornell.

Treasurer and Secretary — T. D. Abrams.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) THOMAS D. ABRAMS,
Treasurer.

Communications to this company should be addressed as follows:

Citizens' Steamboat Company of Troy, Troy, Rensselaer county, N. Y.

No. 4.

CROOKED LAKE NAVIGATION COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) T. O. HAMLIN,
President.

STATE OF NEW YORK, }
Yates County, } *ss.:*

I, Theodore O. Hamlin, president of the Crooked Lake Navigation Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof are true and correct, according to the best of my knowledge and belief.

(Signed) THEODORE O. HAMLIN,
President.

Subscribed and sworn to before me, }
this 15th day of January, 1886. }

WM. M. JOHNSON, *Notary Public,*
Yates county, N. Y.

Amount of capital stock by charter	$12,000 00
Consisting of 240 shares of $50 each.	
Amount of stock subscribed for	12,000 00
Amount paid in at time of organization	12,000 00
Amount now paid in	12,000 00

Number of boats as follows:

Steamboats	1	
Steam propellers	1	
Total		2

Business of the company is transacted on the following waters: Lake Keuka and outlet.

Average number of employees during the year	9

Gross receipts for freight	$1,489 34
Gross receipts from other sources	6,420 62
Total	$7,909 96

There has been paid on account of freight lost	$ 35	
There has been paid on account of freight damaged	2 50	
Total		$2 85

The principal office of the company is located at Penn Yan, county of Yates, N. Y.

The names of the officers of this company are as follows:

Directors — George E. Mumford, H. M. Halsey, Geo. S. Weaver, George Gibson, O. C. Knapp, E. B. Fairchild, W. W. Quackenbush, W. M. Johnson, T. O. Hamlin.

President, Treasurer and Secretary — T. O. Hamlin.

Superintendent — O. C. Knapp.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) T. O. HAMLIN, *President.*

Communications to this company should be addressed as follows:
T. O. Hamlin, President, Penn Yan, Yates county, N. Y.

No. 5.

EASTERN TRANSPORTATION LINE COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) FREDERICK ROBERT, *President.*

STATE OF NEW YORK, }
New York County, } *ss.:*

I, Frederick Robert, president of the Eastern Transportation Line Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) FREDERICK ROBERT, *President.*

Subscribed and sworn to before me, }
this 20th day of January, 1886. }

CHARLES W. BEATTY,
Notary Public, Kings County, and filed in New York County.

Amount of capital stock by charter		$250,000 00
Consisting of 2,500 shares of $100 each.		
Amount of stock subscribed for		250,000 00
Amount paid in at time of organization		125,000 00
Amount now paid in		250,000 00
Floating debt as follows:		
Having no security		$13,069 85
Number of boats as follows:		
Steam tugs	2	
Barges	15	
Total		17
Tonnage:		
Tugs		239. 56
Barges		5,648. 75

Business of the company is transacted upon the following waters: North river, East river, Long Island sound, and Narragansett bay.

Average number of employees during the year	63
Gross receipts for freight	$75,204 95

Amount charged to depreciation of property...........	$57,016 81

The principal office of the company is located at New York, county of New York, N. Y.

The names of the officers of this company are as follows:

Directors — Frederick Robert, S. W. Milbank, D. T. Hoag, William A. Cauldwell, C. R. Roberts.

President — F. Robert.

Treasurer — S. W. Milbank.

Secretary — W. B. Harned

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) FREDERICK ROBERT, *President.*

Communications to this company should be addressed as follows: The Eastern Transportation Line, No. 1 Broadway, New York.

No. 6.

HUDSON RIVER LINE COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) C. T. VAN SANTVOORD, *Treasurer.*

STATE OF NEW YORK,
New York City and County, } *ss.:*

I, C. T. Van Santvoord, treasurer of the Hudson River Line Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) C. T. VAN SANTVOORD, *Treasurer.*

Subscribed and sworn to before me,
this 14th day of January, 1886. }
HENRY S. ROKENBAUGH,
Notary Public, New York County.

Amount of capital stock by charter..................	$125,000 00
Consisting of 1,250 shares of $100 each.	
Amount of stock subscribed for......................	125,000 00
Amount paid in at time of organization..............	125,000 00
Amount now paid in..................................	125,000 00

Floating debt as follows:

Secured by personal mortgage	$120,000 00
Having no security	19,700 00
Total	$139,700 00

Number of boats as follows:

Steamboats	3

Tonnage:

Steamer Albany, net	854.19
Steamer C. Vibbard, net	789.31
Steamer D. Drew, net	841.06

Business of the company is transacted upon the following waters:
Hudson river.

Average number of employees during the year, average for the year, about	50
Gross receipts for freight	$302 81
Gross receipts from other sources	142,394 08

Dividends have been paid as follows:

Cash dividend of six per cent on 1,250 shares of capital stock	$7,500 00

The principal office of the company is located at Vestry street pier, city and county of New York, N. Y.

The names of the officers of this company are as follows:

Directors — A. Van Santvoord, J. McB. Davidson, C. T. Van Santvoord.

President — A. Van Santvoord.

Treasurer and General Manager — C. T. Van Santvoord.

Secretary — C. R. Van Benthuysen.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believe the same to be correct.

(Signed) C. T. VAN SANTVOORD, *Treasurer.*

Communications to this company should be addressed as follows: Vestry street pier, New York city.

No. 7.

IRON LINE COMPANY.

HUDSON, N. Y., *January* 14, 1886.

To the State Engineer and Surveyor of the State of New York:

DEAR SIR — The "Catskill and Albany Steamboat Company" has gone out of existence. It has been succeeded by the "Catskill and Albany Steamboat Company (Limited)," a new organization effected under act of June 21, 1875, for creation of business corporations, and consequently reports to the Secretary of State.

Very respectfully,
A. FRANK B. CHACE,
Secretary.

No. 8.

KEUKA NAVIGATION COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) NELSON THOMPSON, *President.*

STATE OF NEW YORK, } *ss.:*
Yates County, }

I, Nelson Thompson, president of the Keuka Navigation Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) NELSON THOMPSON, *President.*

Subscribed and sworn to before me, }
this 16th day of December, 1885. }
WM. F. MORRIS, *Notary Public.*

Amount of capital stock by charter	$10,000 00
Consisting of 200 shares of $50 each.	
Amount of stock subscribed for	6,400 00
Amount paid in at time of organization	6,000 00
Amount now paid in	6,400 00
Floating debt as follows:	
Secured by real estate mortgage	$1,250 00
Having no security	19,550 00
Total	$20,800 00

Number of boats as follows:

Steamboats	2

Tonnage:

Urbana	90
Lulu	45

Business of the company is transacted upon the following waters: Lake Keuka.

Average number of employees during the year	9
Gross receipts for freight	$2,561 76
Gross receipts from other sources	3,629 99

The principal office of the company is located at Penn Yan, county of Yates, N. Y.

The names of the officers of this company are as follows:

Directors — Nelson Thompson, Ralph T. Wood, Morris F. Sheppard, John H. Butler, Wm. W. Eastman, Frank M. McDowell, Milan H. Hall.

President — Nelson Thompson.

Treasurer and Secretary — Morris F. Sheppard.

Superintendent — William W. Eastman.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believe the same to be correct.

(Signed) NELSON THOMPSON, *President.*

Communications to this company should be addressed as follows: Morris F. Sheppard, Penn Yan, N. Y.

No. 9.

LAKE GEORGE STEAM-YACHT COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) HERSTELL COLVIN, *President.*

STATE OF NEW YORK, } *ss.:*
Warren County, }

I, Herstell Colvin, president of the Lake George Steam-Yacht Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) HERSTELL COLVIN, *President.*

Subscribed and sworn to before me,
this 11th day of January, 1886.

H. O. CRONKHITE, *Notary Public.*

Amount of capital stock by charter	$7,000 00
Consisting of 140 shares of $50 each.	
Amount of stock subscribed for	7,000 00
Amount paid in at time of organization	7,000 00
Amount now paid in	7,000 00

Number of boats as follows:

Steamboats	1

Tonnage:
Twenty tons.

Business of the company is transacted upon the following waters:
Lake George.

Average number of employees during the year	4
Gross receipts for freight	$61 30
Gross receipts from other sources	2,554 49
Total	$2,615 79

Dividends have been paid as follows:
Cash dividend of 3 82-100 per cent on 140 shares of capital stock.

The principal office of the company is located at Lake George, county of Warren, N. Y.

The names of the officers of this company are as follows:

Directors — Frederick Hubbell, Jerome Hubbell, Edwin White, John Phelps, R. S. Ripley, H. Colvin.

President — Herstell Colvin.

Treasurer and Secretary — Jerome Hubbell.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) HERSTELL COLVIN, *President.*

Communications to this company should be addressed as follows:

Jerome Hubbell, Secretary, Lake George, N. Y., Steam-Yacht Company, or H. Colvin, Glens Falls, N. Y., President Lake George Steam-Yacht Company.

No. 10.

NEW YORK AND HUDSON STEAMBOAT COMPANY.

To the State Engineer and Surveyor of the State of New York :

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) MILTON MARTIN, *Treasurer.*

STATE OF NEW YORK, } *ss.:*
Columbia County, }

I, Milton Martin, treasurer of the New York and Hudson Steamboat Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) MILTON MARTIN, *Treasurer.*

Subscribed and sworn to before me, }
this 13th day of January, 1886. }

WM. SEYMOUR,
Notary Public for Columbia Co., N. Y.

Amount of capital stock by charter	$75,000 00
Consisting of 1,500 shares of $50 each	
Amount of stock subscribed for	75,000 00
Amount paid in at time of organization	75,000 00
Amount now paid in	75,000 00

Floating debt as follows:

Secured by real estate mortgage	$4,500 00

The kind of property mortgaged consists of five store-houses and dock property in the city of Hudson, estimated to be worth seventy-five thousand dollars ($75,000).

The New York and Hudson Steamboat Company has an arrangement with the owners of the steamers Redfield and McManus to do their transportation business.

Business of the company is transacted upon the following waters: The Hudson river.

Gross receipts for freight	$12,591 98
Gross receipts from other sources	1,618 90
Total	$14,210 88

The principal office of the company is located at Hudson, Columbia county, N. Y.

The names of the officers of this company are as follows:

Directors — John C. Newkirk, Milton Martin, Geo. H. Power, Wm. H. Traver, Wm. I. Traver.

President — John C. Newkirk.

Treasurer — Milton Martin.

Secretary — Wheeler Powell.

Superintendent — Geo. H. Power.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) MILTON MARTIN, *Treasurer*.

No. 11.

NEW YORK AND LAKE CHAMPLAIN TRANSPORTATION COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) ROBERT H. COOK, *Vice-President*.

STATE OF NEW YORK, } *ss.:*
Washington County, }

I, Robert H. Cook, vice-president of the New York and Lake Champlain Transportation Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) ROBERT H. COOK, *Vice-President*.

Subscribed and sworn to before me, }
this 12th day of January, 1886. }

MARTIN SAWYER, *Notary Public*.

Amount of capital stock by charter	$45,000 00
Consisting of 450 shares of $100 each.	
Amount of stock subscribed for	45,000 00
Amount paid in at time of organization	11,250 00
Amount now paid in	45,000 00

Number of boats as follows:

Steam propellers	4
Canal boats	11
Total	15

Tonnage:

Propeller R. H. Cook	157
Propeller H. G. Tisdale	82
Propeller Grand Isle	125
Propeller Brilliant	67
Eleven canal boats	990

Business of the company is transacted upon the following waters: St. Lawrence, Ottawa, Hudson and East rivers, Lake Champlain, Champlain, Erie and Delaware and Raritan canals, bay and harbor of New York.

Average number of employees during the year	250
Gross receipts for freight	$22,290 09
Gross receipts from other sources	123,766 35

Dividends have been paid as follows:

Cash dividend of ten per cent on 450 shares of capital stock	$4,500 00

There has been paid on account of freight lost	$421 10

The principal office of the company is located at Whitehall, county of Washington, N. Y.

The names of the officers of this company are as follows:

Directors — L. J. N. Stark, R. H. Cook, N. T. Jillion, E. P. Newcomb.

President — L. J. N. Stark.

Vice-President — Robert H. Cook.

Treasurer and Secretary — E. P. Newcomb.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) ROBERT H. COOK, *Vice-President.*

Communications to this company should be addressed as follows:

New York and Lake Champlain Transportation Company, Whitehall, Washington county, N. Y.

No. 12.

NEW YORK LIGHTERAGE AND TRANSPORTATION COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) H. B. MOORE, *President.*

STATE OF NEW YORK, } ss.:
New York County,

I, H. B. Moore, president of the New York Lighterage and Transportation Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) H. B. MOORE, *President.*

Subscribed and sworn to before me,
this 25th day of January, 1886.

JOHN EADIE,
Notary Public, Kings County, certificate filed in New York County.

Amount of capital stock by charter	$20,000 00
Consisting of 800 shares of $25 each.	
Amount of stock subscribed for	20,000 00
Amount paid in at time of organization	20,000 00
Amount now paid in	20,000 00

Floating debt as follows:

Having no security	$3,658 48

Number of boats as follows:

Sail vessels	4
Barges and scows	5
Total	9

Tonnage:

Barge Exchange	150.29
Barge E. A. Meneely	104.60
Barge Resolute	97.93
Barge Jas. W. Eaton	69.50
Scow No. 10	89.88
Lighter Jessie Moore	77.42
Lighter Edward Bill	62.30
Lighter Dandy	43.26
Lighter Philip Dater	30.43

Business of the company is transacted upon the following waters:

North and East rivers and harbor of New York, as far south as Sandy Hook, Long Island sound.

Average number of employees during the year	24
Gross receipts for freight	$53,908 45

There has been paid on account of freight lost........	$98 81

The principal office of the company is located at No. 70 Wall street, county of New York, N. Y.

The names of the officers of this company are as follows:

Directors — Harrison B. Moore, W. M. Burrows, Henry S. Bellows, John F. Christie, Joseph Wells.

President and Treasurer — Harrison B. Moore.

Secretary — Joseph Wells.

Superintendent — John F. Christie.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) H. B. MOORE, *President.*

Communications to this company should be addressed as follows:

New York Lighterage and Transportation Company, 70 Wall street, New York city.

No. 13.

NEW YORK AND SAUGERTIES TRANSPORTATION COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) WELLINGTON PORTER, *President.*

STATE OF NEW YORK, } *ss.:*
Ulster County, }

I, Wellington Porter, president of the New York and Saugerties Transportation Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) WELLINGTON PORTER, *President.*

Subscribed and sworn to before me, }
this 22d day of January, 1886. }

THOS. B. KERNEY, *Notary Public.*

Amount of capital stock by charter..................	$15,000 00
Consisting of 100 shares of $150 each.	
Amount of stock subscribed for	15,000 00
Amount paid in at time of organization	12,000 00
Amount now paid in	15,000 00

Number of boats as follows:

Steamboat	1

Tonnage:

Steamer Ansonia	440.48

Business of the company is transacted upon the following waters: Hudson river, New York bay and Esopus creek.

Average number of employees during the year	19
Gross receipts for freight	$17,288 52
Gross receipts from other sources	6,360 92

Dividends have been paid as follows:

Cash dividend of twenty per cent on 100 shares of capital stock	$3,000 00

There has been paid on account of freight lost and damaged	$50 00

Amount charged to depreciation of property	$500 00

The principal office of the company is located at foot of Franklin street, New York city.

The names of the officers of this company are as follows:
Directors — Henry L. Finger, James Friese, W. L. Finger.
President — Wellington Porter.
Treasurer — Daniel L. Finger.
Secretary — H. L. Finger.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) WELLINGTON PORTER, *President.*

Communications to this company should be addressed as follows: New York and Saugerties Transportation Company, Saugerties, Ulster county, N. Y.

No. 14.

PORT CHESTER TRANSPORTATION COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) D. P. FERRIS, *President.*

STATE OF NEW YORK, } ss.:
Westchester County, }

I, David P. Ferris, president of the Port Chester Transportation Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) D. P. FERRIS, *President.*

Subscribed and sworn to before me, }
this day of January, 1886. }

JOHN E. MARSHALL,
Notary Public, Westchester County, N. Y.

Amount of capital stock by charter	$16,000 00
Consisting of 160 shares of $100 each.	
Amount paid in at time of organization	16,000 00
Amount now paid in	16,000 00

Floating debt as follows:

Having no security	$7,400 00

Number of boats as follows:

Steam propellers	1

Tonnage:
One hundred and thirty-nine tons.

Business of the company is transacted upon the following waters:
Long Island sound and East river.

Average number of employees during the year	16
Gross receipts for freight	$21,337 82
Gross receipts from other sources	304 00

Dividends have been paid as follows:

Cash dividend of ten per cent on 160 shares of capital stock	$1,600 00

There has been paid on account of freight lost and damaged	$219 04

Amount charged to depreciation of property—ten per cent,	$1,600 00

The principal office of the company is located at Port Chester, county of Westchester, N. Y.

The names of the officers of this company are as follows:

Directors — D. P. Ferris, Nelson Studwell, Andrew Ferris, W. H. Ferris, E. F. Studwell.

President — D. P. Ferris.

Treasurer and Secretary — E. F. Studwell.

Superintendent — Nelson Studwell.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) D. P. FERRIS, *President.*

Communications to this company should be addressed as follows:
Port Chester Transportation Company, Port Chester, N. Y.

No. 15.

ROCKAWAY BEACH PIER COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) C. R. HEIKE, *Treasurer.*

STATE OF NEW YORK, } *ss.:*
New York County, }

I, C. R. Heike, treasurer of the Rockaway Beach Pier Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) C. R. HEIKE, *Treasurer.*

Subscribed and sworn to before me,
this 23d day of December, 1885.

EDWARD W. PERRY, *Notary Public,*
New York City and County.

Amount of capital stock by charter	$150,000 00
Consisting of 1,500 shares of $100 each.	
Amount of stock subscribed for	150,000 00
Amount paid in at time of organization	32,000 00
Amount now paid in	150,000 00

Floating debt as follows:

Having no security	$51,057 29

The company has neither owned nor chartered any vessels during the present year.

Business of the company is transacted upon the following waters:

New York harbor.

Average number of employees during the year	2
Gross receipts from other sources	$947 20

The principal office of the company is located at Hempstead, county of Queens, N. Y.

The names of the officers of this company are as follows:

Directors — Henry Havemeyer, Wm. F. Havemeyer, C. R. Heike.
President — Henry Havemeyer.
Vice-President — William F. Havemeyer.
Treasurer and Secretary — C. R. Heike.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believe the same to be correct.

(Signed) C. R. HEIKE, *Treasurer.*

Communications to this company should be addressed as follows:

C. R. Heike, Treasurer, at the branch office of the company, 112 Wall street, New York city.

No. 16.

SENECA LAKE STEAM NAVIGATION COMPANY (LIMITED).

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) WM. B. DUNNING, *Treasurer.*

STATE OF NEW YORK, }
Ontario County, } *ss.:*

I, William B. Dunning, treasurer of the Seneca Lake Steam Navigation Company (Limited), depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) WM. B. DUNNING, *Treasurer.*

Subscribed and sworn to before me, }
this 14th day of January, 1886. }

M. S. SANFORD, *Notary Public.*

Amount of capital stock by charter..................	$25,000 00
Consisting of 2,000 shares of $12.50 each.	
Amount of stock subscribed for	25,000 00
Amount paid in at time of organization	25,000 00
Amount now paid in	25,000 00

Floating debt as follows:	
Having no security....................................	$18,450 04

Number of boats as follows:	
Steamboats...............	4

Business of the company is transacted upon the following waters: Seneca lake.

Average number of employees during the year	13
Gross receipts for freight............................	$2,621 53
Gross receipts from other sources	13,031 99

The principal office of the company is located at Geneva, county of Ontario, N. Y.

The names of officers of this company are as follows:

Directors — S. K. Nester, M. H. Arnot, S. E. Smith, W. B. Dunning, W. H. Chesnut.

President — S. K. Nester.

Treasurer, Secretary and Superintendent — W. B. Dunning.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) WM. B. DUNNING, *Treasurer.*

Communications to this company should be addressed as follows: Wm. B. Dunning, superintendent and treasurer, Geneva, N. Y.

No. 17.

THOUSAND ISLAND STEAMBOAT COMPANY (LIMITED).

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) ALDEN F. BARKER, *Treasurer.*

STATE OF NEW YORK, }
Jefferson County, } *ss.:*

I, Alden F. Barker, treasurer of the Thousand Island Steamboat Company (Limited), depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) ALDEN F. BARKER, *Treasurer.*

Subscribed and sworn to before me, }
this 31st day of December, 1885. }

H. W. MORSE, *Notary Pubtic.*

Amount of capital stock by charter	$40,000 00
Consisting of 1,600 shares of $25 each.	
Amount of stock subscribed for	40,000 00
Amount paid in at time of organization	40,000 00
Amount now paid in	40,000 00

Number of boats as follows:

Steamboat	1
Tonnage	388

Business of the company is transacted upon the following waters: St. Lawrence river.

Average number of employees during the year	21
Gross receipts for freight	$860 41
Gross receipts from other sources	17,684 76
There has been paid on account of freight damaged	$18 00

The principal office of the company is located at Cape Vincent, Jefferson county, N. Y.

The names of the officers of this company are as follows:

Directors — A. F. Barker, Wm. Nickle, M. H. Folger, B. W. Folger, F. A. Folger, S. B. Barker, H. S. Barker.

President — M. A. Folger.

Treasurer — Alden F. Barker.

Secretary — S. B. Barker.

Superintendent — A. F. Barker.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) ALDEN F. BARKER, *Treasurer.*

Communications to this company should be addressed as follows:

Thousand Island Steamboat Company, Clayton, Jefferson county, N. Y.

No. 18.

ZULIA STEAM NAVIGATION COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 232, Laws of 1854.

(Signed) H. B. PATTERSON, *Treasurer.*

STATE OF NEW YORK, }
New York City and County, } *ss.:*

I, Henry B. Patterson, treasurer of the Zulia Steam Navigation Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) H. B. PATTERSON, *Treasurer.*

Subscribed and sworn to before me, }
this 4th day of March, 1886. }

W. M. HOES, *Notary Public,*
New York City and County.

Amount of capital stock by charter as reduced (see note),	$70,000 00
Amount of stock subscribed for .... }	70,000 00
Amount paid in at time of organization and since . } ..	

Floating debt as follows:

None of the property of the company is mortgaged.

Number of boats as follows:

Steam propellers, now upon or near the Zulia river, Van Zuelia, S. A....................................	2

Business of the company is transacted upon the following waters:

The main business of the company is to transport freight and passengers upon the Zulia river, Van Zuelia, S. A. (Also upon the lakes and rivers within the State of New York, should it be required.)

Average number of employees during the year at Van Zuelia in management of boats	34
Gross receipts for freight............................	$27,385 66
Gross receipts from other sources, passengers, mails, etc.	1,885 22

NOTE.— On or about March 17, 1881, the capital stock of the company was duly reduced from $100,000 to $70,000.

Paid for new moving stock and equipment as follows, including repairs	$8,107 72

The principal office of the company is located at 54 William street, city and county of New York, N. Y.

The names of the officers of this company are as follows:

Directors — Fernando Parraga, William G. Boulton, Jose M. Munoz, John Dallett, Henry B. Patterson.

President — Fernando Parraga.

Vice-President — William G. Boulton.

Treasurer and Secretary — Henry B. Patterson.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) H. B. PATTERSON, *Treasurer.*

Communications to this company should be addressed as follows:
No. 54 William street, New York city.

BRIDGE COMPANIES.

No. 1.

HALFMOON BRIDGE COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 259, Laws of 1848.

(Signed) C. BOUGHTON, *President.*

STATE OF NEW YORK, } ss.:
Saratoga County,

I, Chauncey Boughton, president of the Halfmoon Bridge Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) C. BOUGHTON, *President.*

Subscribed and sworn to before me, }
this 14th day of January, 1886. }

WILLIAM A. DENNIS, *Justice of the Peace,*
Waterford, N. Y.

Articles of association, when filed:

Filed in the office of the State Engineer and Surveyor in the year 1850.

Filed in the clerks' offices of Albany and Saratoga counties in the year 1850.

Description of bridge:

This bridge spans the waters of the Mohawk river, and is located in the towns of Halfmoon and Watervliet, and counties of Saratoga and Albany.

Its length is 1,196 feet; its width is 20 feet, and its height above surface of water is 25 feet.

It is built of iron; it has no draw; it is supported by fifty columns iron 5½ by 16 inches; there are twenty-six spans of 46 feet each; it has a single track 18 feet in the clear, open not covered.

Rates of toll:

For every vehicle drawn by two animals	12½	cents.
For each additional animal	5	"
Horse and vehicle	10	"
A horse and rider or led horse	5	"
Each score of neat cattle	60	"
Each score of swine or sheep	20	"

Amount of capital stock by charter	$12,000 00
Consisting of 480 shares of $25 each.	
Amount of stock subscribed for	12,000 00
Amount paid in at time of organization	350 00
Amount now paid in	12,000 00
Amount of capital stock expended	12,000 00

Cost of company's property:

Cost of bridge	$17,950 00
Cost of toll-house	500 00
Cost of right of way	2,000 00
Cost of all other property and fixtures	1,000 00
Total	$21,450 00

Receipts during the year:

Gross receipts for tolls	$2,627 00
Gross receipts from other sources	220 56

Payments during the year:

For repairing bridge	$91 06
For repairing toll-house	40 59
For taxes	185 30
For all other expenses	388 24
Total	$705 19

Dividends:

There has been made during the year cash dividend of sixteen per cent on 480 shares of capital stock	$1,920 00
Balance in hands of treasurer	$1,258 51

The annual report for the year ending December 31, 1884, was published four weeks in the Cohoes *Daily News*, that is on the 29th of January, and 4th, 9th, and 16th days of February.

The principal office of the company is located at Waterford, county of Saratoga, N. Y.

The names of officers of this company are as follows:

Directors — C. Boughton, Wm. C. Groesbeck, Mott Emigh, Henry Palmer, Stephen Emigh.

President — C. Boughton.

Treasurer and Secretary — Mott Emigh.

Superintendent — C. L. Van Slyke.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company and believes the same to be correct.

(Signed) C. BOUGHTON, *President.*

Communications to this company should be addressed as follows:

C. Boughton, president, or Mott Emigh, secretary and treasurer, Halfmoon Bridge Company, Waterford, Saratoga county, N. Y.

No. 2.

HALES EDDY BRIDGE COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 259, Laws of 1848.

(Signed) CHAS. M. PUTNAM, *President.*

STATE OF NEW YORK, } *ss.:*
Broome County, }

I, Charles M. Putnam, president of the Hales Eddy Bridge Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) CHAS. M. PUTNAM, *President.*

Subscribed and sworn to before me, }
this 20th day of February, 1886. }

A. C. MOSES, *Justice of the Peace.*

Articles of association, when filed:

Filed in the office of the State Engineer and Surveyor, October 19, 1865.
Filed in the clerk's office of Delaware county, October 19, 1865.
Filed in the clerk's office of Broome county, October 19, 1867.

Description of bridge:

This bridge spans the waters of the Delaware river, and is located in the towns of Deposit and Sanford, and counties of Delaware and Broome.

Its length is 246 feet; its width is 22 feet; and its height above surface of water is 22 feet.

Built of wood with stone abutments; no draw; single track; covered.

Two arches 133 feet long and one 113 feet long. One pier 24 feet high, 36 feet long, 8 feet 4 inches thick at bottom, 6 feet 6 inches thick at top.

Rates of toll:

	One way.	Both ways.
For every four-wheel carriage or sleigh drawn by two animals	20 cents.	25 cents.
For every additional animal	5 "	....
For every one wagon, sled or cart drawn by two oxen	15 "	25 "
For every additional animal	10 "	10 "
For every man and horse	5 "	....
For every foot passenger	1 "	2 cents.
For every cow or other neat cattle	3 "	....
For every sheep or swine	2 "	....

	Per hundred.
Two hundred tickets or more for team and vehicle bought at one time	$12 50
Fifty tickets or more for team and vehicle bought at one time	15 00
Less fifty tickets for team and vehicle bought at one time	20 00

Amount of capital stock by charter Consisting of 160 shares of $25 each.	$4,000 00
Amount of stock subscribed for Amount paid in at time of organization Amount now paid in Amount of capital stock expended	*

Cost of company's property:

Cost of bridge Cost of toll-house Cost of right of way Cost of all other property and fixtures	$2,500 00

Receipts during the year:

Gross receipts for tolls	$316 03

Payments during the year:

For repairing bridge	$41 56
For repairing toll-house	15 73
For taxes	11 53
For all other expenses	72 25
Total	$141 07

Dividends:

There has been made during the year, cash dividend of five and one-half per cent on eighty shares	$110 00

Balance in hands of treasurer	$176 18

The annual report for the year ending December 31, 1885, was published four weeks in The Deposit *Courier*, that is, on the 16th, 23d and 30th days of January and February 6, 1886.

The principal office of the company is located at Deposit, county of Broome, N. Y.

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* Bridge was sold on mortgage August 22, 1878. January 6, 1880, the old stockholders reorganized with eighty shares of stock at $25 each, $2,000. All paid in and refunded with $500, they borrowed in purchasing the bridge and company.

The names of officers of this company are as follows:

Directors — Charles M. Putnam, Jacob Gardinier, H. W. Brandt, Jacob Schleyer, David Allen.

President — Charles M. Putnam.

Treasurer — H. W. Brandt.

Secretary — James S. Miner.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believe the same to be correct.

(Signed) CHARLES M. PUTNAM, *President.*

Communications to this company should be addressed as follows: To the President or Secretary at Deposit, Broome county, N. Y.

No. 3.

MIDDLEBURGH BRIDGE COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 259, Laws of 1848.

(Signed) SARAH D. HOAG, *Treasurer.*

STATE OF NEW YORK, *Schoharie County,* } *ss.:*

I, Sarah D. Hoag, treasurer of the Middleburgh Bridge Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, to the best of my knowledge and belief.

(Signed) SARAH D. HOAG, *Treasurer.*

Subscribed and sworn to before me, this 8th day of January, 1886. }

G. L. DANFORTH, *Notary Public.*

Articles of association, when filed:
Built under chapter 74, of Laws of 1813.
Charter extended by supervisors in 1856.
Confirmed by Legislature in 1857.

Description of bridge:
This bridge spans the waters of the Schoharie river, and is located in the town of Middleburgh and county of Schoharie.
Its length is 300 feet; its width is 20 feet, and its height above surface of water is 16 feet.
It is built of wood; no draw; single track; teams may pass; covered; three spans 100 feet each; two interior piers 35 feet long at bottom, 20 feet at top, 8 feet wide; built of stone.

Rates of toll:

For every vehicle drawn by two animals	6 cents.
For every vehicle drawn by more than two animals, three cents for every additional.	
For every vehicle drawn by one animal	3 "
For every team of horses, mules or oxen without a vehicle	4 "
For every horse or mule and rider, or led horse or mule	2 "
For every cow or other cattle not otherwise specified	1 "
For every hog, sheep or calf	2 "

Amount of stock by original charter	$8,000 00
Consisting of 400 shares of $20 each.	
Amount of stock subscribed and paid in	6,500 00
Amount paid in at time of organization	6,500 00
Amount now paid in	6,500 00

Cost of company's property:

On destruction of superstructure in 1857, seventy-five per cent was assessed $4,880 and expended on new superstructure and old stock called in, and sixty-five shares issued, of $100 each, issued and taken.

Receipts during the year:

Gross receipts for tolls	$1,009 00

Payments during the year:

For repairing bridge	$7 50
For taxes	69 09
For all other expenses	237 40
Total	$313 99

Dividends:

Distributed to stockholders	$605 01

The principal office of the company is located at Middleburgh, county of Schoharie, N. Y.

The names of officers of this company are as follows:

Directors — Sarah D. Hoag, Caroline B. Danforth, Emilie Whitecar, Duryea Beekman, G. L. Danforth.

President — Duryea Beekman.

Treasurer — Sarah D. Hoag.

Secretary — G. L. Danforth.

Superintendent — Emilie Whitecar.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) SARAH D. HOAG, *Treasurer*.

Communications to this company should be addressed as follows:
G. L. Danforth, secretary.

No. 4.

REXFORD FLATS BRIDGE COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 259, Laws of 1848.

(Signed) C. W. REXFORD, *Treasurer.*

STATE OF NEW YORK, } *ss.:*
Saratoga County, }

I, Cyrus W. Rexford, treasurer of the Rexford Flats Bridge Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) C. W. REXFORD, *Treasurer.*

Subscribed and sworn to before me, }
this 28th day of January, 1886. }

M. A. DOUGHTY, *Justice of the Peace.*

Articles of association, when filed:

Filed in the clerks' offices of Schenectady and Saratoga counties in 1865.

Description of bridge:

This bridge spans the waters of the Mohawk river, and is located between the town of Niskayuna, Schenectady county, and the town of Clifton Park, Saratoga county.

Its length is about 625 feet; its width is 18 feet, and its height above surface of water is about 17 feet.

It is built of iron; no draw; double track; not covered; supported by six (6) piers and two (2) abutments; piers are from 5 to 6 feet 6 inches wide, and about 28 feet long.

Rates of toll:

For two-horse vehicle	10 cents.
For each additional horse	4 "
For one-horse vehicle	7 "
For horse led or ridden	4 "
For cattle	2 "
For sheep or swine	1 "
For persons on foot	1 "

We also sell commutation crossings as follows:

Thirteen crossings two-horse vehicle for	$1 00
Twenty crossings one-horse vehicle for	1 00
Thirty crossings for pedestrians	25

Amount of capital stock by charter	$10,000 00
Consisting of 400 shares of $25 each.	
Amount of stock subscribed for	8,100 00
Amount paid in at time of organization	150 00
Amount now paid in	8,100 00
Amount of capital stock expended	8,100 00

Cost of company's property:	
Cost of bridge about	$13,000 00
Cost of toll-house	250 00
Cost of right of way	7,000 00
Cost of all other property and fixtures	100 00
Total	$20,350 00

Indebtedness of the company:	
Secured by real estate mortgage	$10,000 00

This indebtedness was caused by the issue of $10,000 bonds secured by mortgage on all property of all kinds issued under chapter 125 of the Session Laws of 1885.

Receipts during the year:	
Gross receipts for toll	$1,244 43
Gross receipts from other sources	11,432 53
Total	$12,676 96

Payments during the year:	
For new bridge and repairs to piers, abutments and toll-house	$12,609 57
For taxes	34 75
Total	$12,644 32
Balance in hands of treasurer	$32 64

The annual report for the year ending December 31, 1885, was published four weeks in the Ballston *Weekly Journal*, Ballston, N. Y., that is on the 10th, 17th, 24th and 31st days of January, 1885.

The principal office of the company is located at Rexford Flats, county of Saratoga, N. Y.

The names of officers of this company are as follows:

Directors — R. C. Dorn, C. W. Rexford, L. Lansing, C. B. Knowlton, L. Rexford, B. R. Caldwell, W. A. Graves.

President — R. C. Dorn.

Treasurer and Secretary — C. W. Rexford.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) C. W. REXFORD, *Treasurer.*

Communications to this company should be addressed as follows:

The Rexford Flats Bridge Company, Rexford Flats, Saratoga county, N. Y.

No. 5.

SIDNEY BRIDGE COMPANY.

To the State Engineer and Surveyor of the State of New York:

The following report has been prepared in conformity with chapter 259, Laws of 1848.

(Signed) THOS. G. SMITH, *Treasurer.*

STATE OF NEW YORK, }
Delaware County, } *ss.:*

I, Thos. G. Smith, treasurer of the Sidney Bridge Company, depose and say that the statements in the following annexed report, which has been signed by me at the end thereof, are true and correct, according to the best of my knowledge and belief.

(Signed) THOS. G. SMITH, *Treasurer.*

Subscribed and sworn to before me, }
this 5th day of January, 1885. }

WM. THORP, *Notary Public.*

Articles of association, when filed:

Filed in the office of the State Engineer and Surveyor in the year 1853.
Filed in the clerk's office of Delaware county in the year 1853.

Description of bridge:

This bridge spans the waters of the Susquehanna river, and is located in the towns of Sidney and Unadilla and counties of Delaware and Otsego.

Its length is 248 feet, its width is 16 feet, and its height above surface of water is 20 feet.

Bridge is built of wood, supported by one stone pier in the center and by stone abutments at each end. Has a single track and is covered.

Rates of toll:

For every coach and pleasure carriage drawn by two horses.	25	cents.
For the same if drawn by one horse....................	12½	"
For every wagon or cart drawn by two horses, mules or oxen	12½	"

For the same if drawn by one horse or mule	8	cents.
For one horse and rider	6	"
For every horse or mule or driver	3	"
For every foot passenger	2	"
For every score of cattle	25	"
For every score of sheep	12½	"

Amount of capital stock by charter	$4,000 00
Consisting of 160 shares of $25 each.	
Amount of stock subscribed for	4,000 00
Amount paid in at time of organization, ten per cent	400 00
Amount now paid in	4,000 00
Amount of capital stock expended	4,000 00

Cost of company's property:	
Cost of bridge	$4,147 00
Cost of toll-house	353 00
Total	$4,500 00

Receipts during the year:	
Balance in treasury, December 31, 1884	$161 81
Gross receipts for tolls	600 50
Gross receipts from other sources	8 00
Total	$770 36

Payments during the year:		
For repairing bridge	$4 50	
For taxes	63 63	
For all other expenses	78 92	
		$147 05

Dividends:	
There has been made during the year cash dividend of eleven and eight-tenths per cent on 160 shares of capital stock	472 00
Balance in hands of treasurer	151 31
Total	$770 36

The annual report for the year ending December 31, 1884, was published four weeks in Sidney *Record,* a paper published at Sidney Plains, N. Y., that is, on the 8th, 15th, 22d and 29th days of January, 1885.

The principal office of the company is located at Sidney Plains, county of Delaware, N. Y.

The names of officers of this company are as follows:

Directors — Jabez J. Rogers, Ira E. Sherman, David T. Spencer, James White, Mrs. Caroline Foster.

President — Jabez J. Rogers.

Treasurer and Secretary — Thos. G. Smith.

Superintendent — Ira E. Sherman.

The undersigned has caused the foregoing statement to be prepared by the proper officers and agents of this company, and believes the same to be correct.

(Signed) THOS. G. SMITH, *Treasurer.*

Communications to this company should be addressed as follows:

Thos. G. Smith, Secretary, Sidney Bridge Company, Sidney Plains, Delaware county, N. Y.

STATE OF NEW YORK.

No. 80.

IN ASSEMBLY,

March 5, 1886.

REPORT

OF THE SUPERINTENDENT OF STATE LAND SURVEY.

STATE OF NEW YORK:
Office of State Land Survey,
Albany, *March* 4, 1886.

To the Honorable James W. Husted, *Speaker of the Assembly:*

Sir — In accordance with law, I have the honor to submit the accompanying report to the Legislature, relative to the surveys of the public lands in the counties of Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren.

Very respectfully yours,
VERPLANCK COLVIN,
Superintendent.

REPORT

ON THE PROGRESS OF THE SURVEY OF THE STATE LANDS.

To the Honorable the Legislature of the State of New York:

The surveys now being carried on by this department are conducted in conformity with the provisions of chapter 499 of the Laws of 1883. This law directs the Superintendent of the Adirondack Survey to make surveys, showing the location and area of all the several detached portions or parcels of State land in the counties of Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren, and to connect the same with the surveys of the interior, and to show upon a map or maps the position of such lands.

The law further directs (section 2, chapter 499, Laws of 1883) that the methods of survey shall be in accordance with those in use on the Adirondack Survey, and that copies of the maps relating to the State lands shall, upon their completion, be filed in the offices of the Comptroller and State Engineer and Surveyor.

The appropriation made in 1883 for both the field and office work was $15,000, and proved to be inadequate for the accomplishment of all the work desired, in consequence of the great extent of country to be covered, and the remarkable complications and difficulties that were found to exist in regard to the boundary lines of the lands to which the State held title.

Difficulties Encountered.

The State lands in the ten counties mentioned in the law of 1883 were found to amount to nearly 750,000 acres. These lands were, to a great extent, bought in by the State authorities at tax sales, and have become portions of the public domain on account of the failure of the owners to redeem them by the payment of the arrears of taxes.

The State ownership has now, after repeated notifications, extending over years, been confirmed by law.

The legal title to the lands being thus securely vested in the State, the determination of the actual location of each of the separate tracts, pieces or parcels of land in the counties mentioned is, by the law, ordered to be made by means of proper surveys to be conducted by this department.

The marking out and location by survey of four thousand separate parcels of land, scattered over ten of the largest counties of the State, and embracing three-quarters of a million of acres, is an undertaking of the greatest magnitude.

When it is considered that in recent times these lands have more than quadrupled in value; that they contain nearly all the forest territory remaining in the possession of the State, and are believed to include deposits of valuable ore, inasmuch as lands in the same vicinity, once the property of the State, are now the location of prosperous mines, valued at millions of dollars; the importance of the trust imposed, the care required, and the difficulties encountered in the execution of these surveys will be to some extent understood.

Those difficulties which arise in the actual field-work of the survey, great as they are, are preceded by the even greater difficulties attendant upon the determination of what surveys are needed, and what data exist on which to base the measurements.

Generally, the first data to be consulted in identifying the property are the scant and frequently defective memoranda contained in the recorded deeds conveying the title of the property to the purchasers, who permitted it to pass to the State by their default in taxes. These peculiar land titles are very frequently complicated by repeated tax sales. At different times purchases have been made by various parties unfamiliar with the lands, who subsequently finding the uncertainty of the ownership, or the unavailability of the lands for agricultural use, or impediments preventing lumbering, and the like difficulties, have allowed the lands to be again sold by the State; the same process recurring until, by unrecorded and unmapped subdivisions, and repeated conveyances and sales, it becomes, in many instances, extremely difficult to ascertain what is the true description of the property.

When there are no public records of the original land surveys, and the records of the private surveys have been lost, or are not obtainable, if any complications or disputes arise as to the true boundaries of the particular lot owned by the State, the work of the survey has, of necessity, to be based upon a careful, critical search of the land titles and descriptions of boundaries of adjacent property.

Where legal controversies have arisen, or are pending in the courts, relative to such boundaries, the decisions have to be searched for, or, in some cases, awaited. The labor involved in these searches and the occasional delays, where the location of the boundary depends upon the decision of the courts, are entirely preliminary to the actual survey work, or the location, monumenting and marking of any boundary lines.

A careful study has also to be made of all available records for descriptions of old reference points from which to begin the resurveys. While there are numerous references to "a stake" or a "heap of stones," it has been found by experience in the field that the stakes have in most places entirely decayed and disappeared and the "heaps" of stones are generally quite indistinguishable from other stones, scattered throughout the woods. A study of the field-notes of the ancient surveys has, therefore, to be made to ascertain whether any record is given of the distance of a township corner from some stream or lake shore; the intersection of some line with an unmistakable precipice or gorge; of records of offsets to equally prominent natural features of the country. When a sufficient number of recognizable topographical features have thus been found in the old records, the field search for these starting points can be commenced; but the searches among the old records for such memoranda are frequently of necessity extensive on account of the difficulty of ascertaining among what records such data may be found. This portion of the data has usually to be searched for among the old colonial records. Where the boundaries of tracts are described in the original surveys of each, a comparison of the records is made to see whether the distance from the starting point or corner along the line to the topographical feature — stream, lake, or cliff — is similarly described; for, in the field searches, it is likely that the stream, lake, or cliff will be the first locality identified; so that by reversing the measurements the corner may, in turn, be re-found.

If the description of the same boundary line in the different field-notes of the adjacent townships do not agree, a renewed study of the subject must be made, and if an absolutely irreconcilable difference be found, then the authority of the records has to be considered, their accuracy and the legal questions involved studied in order to ascertain which of the ancient surveys will be maintained by the existing laws of the State.

In such cases much often depends upon the priority of the patents or the surveys, or the possession. This information is partially obtainable from the old records, and may in part be derived from oral testimony, the evidence of experts and others.

After the conclusion of these preliminary investigations the field-work is begun by an examination of the localities where survey work is most needed at the time, to settle questions of ownership of property. The records of the topographical features are so scanty that the restoration of the lines has to proceed like a reconstruction, so that when one line, corner, or position has been finally identified by the evidence collected, then the next grant, or patent, or subdivision, may be located in its turn by being built up, in accordance with the ancient field-notes, upon the basis of the lines of the first grant or patent identified. This is not all the means of identification. When the field-work has actually begun, the reconstruction by the new surveys will ordinarily, if the preliminary investigations have been carefully made, be found to so closely follow the ancient survey that the first random line run out will usually reveal a line of old marked trees, one of which being cut into, and the rings of annual growth counted, will identify the line by the age of the mark. These marks being consecutive along a given magnetic bearing, and all of the marks being of the same age, is—without dwelling further upon the field-work or entering into details — evidence of the identification of the ancient boundary. The actual re-survey is then begun, the sides of the lot or township are measured with steel ribbon, aligned by transit, the steel ribbon being kept taut by strong spring-balance handles held by the " chainmen ; " the measurements being made perfectly horizontal by means of levels attached to the steel ribbon.

This re-measurement of the lines is very precise but is further checked and tested by the triangulation. It is for this purpose, for the checking and combining of the separate sections of detail surveys into one system, that the signal stations have been erected upon the mountain summits throughout the region, and it is by means of the trigonometrical measurements with the large theodolites that the different linear surveys are tested and connected with the surveys of the interior, in conformity with the law.

The field work of triangulation is even more difficult of execution than that of the linear surveys owing to the inaccessibility of the stations and the alternate cloudiness and smokiness of the atmosphere preventing sights to other signals. Delays of two weeks in obtaining a single sight from signal to signal are frequently caused by storms and clouds, and from a month to six weeks' stay is usually required at each signal station on a mountain peak to secure the needed observations. Yet the precise results of trigonometrical measurement are absolutely essential to the proving, connecting, testing and adjustment of all land survey and topographical work. Without the triangulation it would be impossible to tie the different surveys together so as to plat them in the construction of the maps.

It is only by the processes thus indicated that a settlement of the disputed boundaries can be arrived at, the monumenting of corners and land lines accurately effected, and the data obtained for the preparation of exact maps of the region.

All these divisions of the work are essential to the construction of the maps proposed, and are in conformity with the general requirement of the law, which directs that the methods of survey shall be in accordance with those previously in use upon the Adirondack Survey. What these methods have been are sufficiently explained by the publications and records of the survey.

These explanations of the requirements of the law, and the methods adopted to secure the beneficial results desired, have been made in order to indicate the complications and difficulties which intervene between the announcement of the necessity for a survey and the accomplishment of the work.

Without some explanation the difficulties encountered could not be understood, the caution and research required would be unknown, and the great amount of time needed for these unavoidable preliminary studies would not be comprehended. Even after these explanations it is likely that these difficulties will hardly be understood by those who have had no personal experience with this particular work. It is safe to say, that in no portion of the territories of a civilized state are such complications and such an accumulation of difficulties to be encountered in the execution of topographical and land surveys, as in the northern, or Adirondack, district of New York. The neglects or laches of a century are now required to be suddenly rectified. The unrecorded work of private surveys in many localities now demarks and limits the boundaries of the territories of the State; what was once deemed worthless has become valuable; what is now deemed valueless may soon become of the greatest importance; and upon the accurate survey of barren and inaccessible lands depends the true location of the adjacent vast deposits of the purest magnetite, and the ownership of the forests, whose timber furnishes the charcoal with the aid of which the finest qualities of iron and steel are now manufactured.

LIMITS OF THE WORK.

It may, perhaps, now be thought that the extent of the work required for the accurate mapping of the public lands has been explained. Some might assume, hastily, that the extent of the undertaking was fully known when the area of the public domain was shown to be three-quarters of a million acres, divided into 4,000 separate parcels. Such persons might say the work to be done was the execution of 4,000 special surveys of the several separate lots or subdivisions, having an average area nearly equal to that of an ordinary farm of 200 acres; but accurate and permanently useful work requires a broader and more comprehensive view of the question.

To settle the true location of each one of these separate subdivisions owned by the State, the position, dimensions, boundaries and old survey records — if any exist — of the larger lot or township, within which it is located, must be studied. Still further surveys are then found to be required. It is found necessary to ascertain the true location of the township in the great tract to which it belongs; for it cannot be mapped unless its relationship to each and every other township in the larger tract be known. Invariably this work shows that the generally received ideas relative to the precise location of the townships are more or less erroneous. Townships which were supposed to corner at the same point are in some cases found to have separate corners a short distance apart, although, perhaps, upon one of the supposed intersecting lines. Strips of ownerless land, called gores, are found to exist, at times, between townships, and the straight or right lines shown upon the maps as the boundaries of the allotments are found to be at times very irregular and governed by no mathematical rule.

These irregularities in the lines of the allotments, or in any of the lines defining the boundaries of property, cannot and ought not to be changed. No principle of law can be better established than that which declares the boundaries of real estate to be limited and defined by the existing landmarks The decisions of the courts are explicit on this point, and the work of the surveyor engaged in restoring the boundaries does not consist in laying out new lines, but in ascertaining by the most careful measurements what the real form and location of the ancient lines may be.

The difficulty in satisfactorily executing this work of restoration is largely owing to the natural opposition existing in the human mind to a new view of an old question. It is, in this case, the difference between what people have imagined the course of the lines and the forms of the townships and allotments and their true courses and dimensions. The old maps show the lines as straight lines, and the townships usually rectangular. When these lines and forms come to be carefully surveyed by modern and more accurate methods; deflections are found in the lines; the boundaries are shown to be convex or concave, or more or less irregular in line. In consequence of these irregularities, when a lot has to be located, its distance from the existing lines must be obtained, and not its theoretical position with regard to the old and supposititious rectangular form.

The limits of the map work are not reached, however, even after the lot lines have been adjusted within the township. A hundred townships, each one in its own locality governed and controlled in regard to its position by the lines of the tracts — equally uncertain as to their true location and form — also require adjustment. These great tracts, being in their turn included within the limits of the huge "grants" or "patents" or "purchases" are limited, restricted and controlled by the dimensions and marked lines of these original conveyances, of which the great tracts, towns, townships and allotments are only sub-divisions, which cannot in any way control the boundaries or locations of the adjacent patents or grants.

Yet when we come to prepare a map of any one of the ten counties we find it made of a collection of surveys of these great tracts or patents or royal grants (or portions of them) whose boundaries are all more or less in doubt, so that, finally, the location of every county boundary, which is defined by any ancient survey line, is found to require an investigation and settlement of the boundary lines of each and every one of these grants or patents by re-survey in accordance with modern and improved methods.

Unless all these details are attended to, error is sure to creep into some portion of the work and introduce an element of uncertainty where all should be made practically precise.

The result of these investigations has proved, that for the preparation of accurate maps of the public lands, surveys must be systematically extended over the entire northern district of the State. The area of the ten counties mentioned in the law of 1883 is over 14,000 square miles. The following table shows the area of each county.

Counties.	Square miles.
The county of Clinton contains	1,092
The county of Essex contains	1,926
The county of Franklin contains	1,718
The county of Fulton contains	544
The county of Hamilton contains	1,745
The county of Herkimer (north part) contains	1,000
The county of Lewis contains	1,288
The county of Saratoga contains	862
The county of St. Lawrence contains	2,880
The county of Warren contains	968
Total area*	14,023

No systematic map, showing the true location of the subdivisions, can be made without a complete survey of the whole of this vast territory. The surveys of lots and lines must be connected and tested by trigonometrical measurements, the details of topography — of rivers and lakes, of elevations and depressions — must be filled in with precision upon the maps of the cadastral work, the locations of roads and highways and of the settlements and villages which they connect, and all similar details requisite for an accurate knowledge of the topography of the country, must be accurately shown if these surveys are to possess permanent value.

It must not be thought that this work is of such magnitude as to be beyond accomplishment. If sufficient means be provided, and the work regularly and systematically supported both by the legislative and executive departments of the State, immediate and rapid progress could be made, and all the desirable results which have been indicated above accomplished within a reasonable period of time.

The exact limits of time and expense can be speedily settled when the scale of the maps and the amount of minutiæ in the details of the topographical work have been settled upon.

On account of the delays, omissions and neglects of a century the restoration of the boundary lines, the technical land survey or cadastral survey, will be the most difficult and expensive part of the work, and will require the greatest amount of time and attention. The trigonometrical measurements, made with precision, in accordance with the most approved methods known to modern geodetic science, are absolutely necessary in the checking, testing and tying together of the widely separated lines of the counties, patents, grants or townships, and the determination of the true distances to the county, town and township corners; but the practical value of these trigonometrical measurements consists in the nicety with which they prove and test the land lines or property lines. The trigonometrical measurements, therefore, when viewed from the standpoint of utility, are necessary in closing and testing the practical land-line work; the geodetic lines forming not only the ground work of the future accurate maps, but the demonstration which the chief officers of the survey require to prove the accuracy of the linear measurements made in the field.

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* Based on the census report of 1885.

Similarly the precise topographical work has its chief merit in its practical importance, in that maps prepared from such data are an exact miniature representation of the *real* natural features of the country from which any officer of the State, assessor or business man or scientist may readily learn where the boundaries and monuments are located by a moment's examination of these maps.

Thus it is seen that the land survey is of the most immediate practical importance and that the trigonometrical and topographical measurements are essential to the perfection of the work and must naturally proceed together. The different classes of work are interdependent. If they are carried on together in accordance with the methods pursued by this department in the execution of the surveys in the Adirondack region the expense will be far less than when compass surveys are hastily made by one set of men, topographical sketches afterward by others unfamiliar with the work of the compass surveyors, and trigonometrical surveys by others who know nothing about the land lines and topography.

Consistent, homogeneous work requires a thorough system continuously leading toward the important objects in view.

If there is any such thing as progress; if new and better methods, when discovered, are to replace the old and effete; if the rudely executed and heterogeneous compass surveys of a century, leading only to confusion, prove the necessity of adopting the more modern and precise methods, then we should endeavor to study the question in its most comprehensive form, and the work that is found to be necessary should be executed in the most complete, thorough and permanent manner possible.

It has been shown that the survey of the allotments and the location of the State lands leads up to the township, the great tracts, the grant, the patents and the boundaries of the counties themselves. All are involved more or less — here and there — in doubt, and in every case these doubts can only be settled by survey.

An accurate map of the lands in each county requires a survey of each county, and the limits of the State Land Survey are of necessity the boundaries of the counties within which the work is by the law ordered to be carried on.

It is as easy to do complete and permanent work, if the means shall be given for the employment of a sufficient field and office force, as to execute partial and temporary measurements. It is respectfully urged that no restricted view of this question should be taken and that means should be afforded for a comprehensive treatment of this great work, in the manner and to the extent which the investigations made during the progress of this survey, and heretofore explained, have shown to be necessary.

BASIS OF THESE CONCLUSIONS.

These conclusions have been reached after a special study, extending over more than twenty years, devoted to the most careful examination of the ancient records in the State departments and researches and scientific surveys in the field in every one of the ten counties mentioned in the law of 1883. It was only after these repeated and repeated attempts made to solve in different localities the disputed questions, by means of the existing data and new local surveys, had shown the great uncertainties in which all the ancient compass surveys are involved, that the amount of work required of the new Land Survey was understood.

At the commencement of field-work in 1883 communications were addressed to the State Comptroller and other officers of the State government, requesting them to advise this department of those matters affecting the State lands of which they had official cognizance, and which, in their opinion, required the most immediate attention.

The answers received proved that it was not only almost impossible in many places to identify the public lands, but that assessments upon private lands could not be accurately or properly laid on account of faulty descriptions and the general uncertainty as to the townships and great tracts in which the lands were situated.

The reply of the Comptroller stated that "the importance of the survey and map required can hardly be over estimated," and that "as matters now stand it is confusion worse confounded, for not a piece of land therein can now be accurately or reliably described." This reference was especially made to the prison lands in Clinton county in the fifth township of the Old Military Tract. The same difficulties have been found to exist in each of the counties in the northern district of the State.

After diagrams had been prepared showing the supposed location of the State lands in the several counties, a general study of all the problems requiring solution was made, and in every case the uncertainties attending the lot lines were found to be affected by uncertainties in the township and patent boundaries, and these in their turn led up to questions which involved the locations of the county lines. Having been authorized and directed by the Legislature to make special investigations in regard to some of these county lines, and finding the location of these lines to be essential in the preparation of the maps of the ten counties, I caused surveys to be made at those points where the investigations had indicated that the initial facts required in the settlement of these questions could be ascertained.

The field work during the seasons of 1883, 1884 and 1885 has developed the most important results in every branch of the survey, and has afforded especially valuable data relative to the true location of sections of these lines identified and authenticated by substantial historical, local and topographical evidence which cannot be controverted. Important corners have also been searched out and identified, and with these starting points, and the great amount of similar data accumulated during the progress of the survey of the interior of the Adirondack region, the requisite basis has been acquired for the execution of the detailed work of the land survey.

It is true that in every section, as the work progresses, additional research among the ancient records will have to be made, and preliminary examinations in the field for line trees and topographical marks for the identification of additional sections of the old lines, but each new section as it is discovered and restored will afford better data for the search, and will form a substantial portion of the evidence by which other lines — now involved apparently in utter obscurity — may be found, restored and monumented for all time.

DATA AVAILABLE.

To show the amount of data available for the map-work, and as a basis for the further surveys to be made of the State lands, the following general statement may be made :

TRIANGULATION.

About one-half of the entire region has been covered by the primary triangulation of the Adirondack Survey, and secondary and tertiary triangulation has been made over a large portion of those sections in which the detailed topographical surveys have been conducted by this department.

These measurements can be made immediately available for the tying together of the land-lines, and have been connected with a number of important lines and corners of tracts of land during the seasons of 1884 and 1885, rendering it possible to plat the boundaries and show the location of the tracts which they limit.

The signal stations marking these trigonometrical points are upwards of two hundred in number, nearly all of them being upon prominent mountain peaks, within a reasonable distance of the boundaries and property corners which they are designed to locate. The primary and secondary stations are constructed in the most substantial manner. The signal is usually an open framework of wood, pyramidical in form, the centre being indicated by a vertical pole or mast, which is the point observed upon with the theodolite and measured to. These signals are secured to the native rock by iron bolts, leaded in, and the centres of the stations are marked by copper-bolts bearing inscriptions and numbers identifying the survey and station.

This system of measurements covers over six thousand square miles of Northern New York, the angular measurements representing in linear distances many thousand miles.

The records of these measurements are contained in a large number of closely written quarto volumes on file in the office of the survey in the Capitol.

Upon these records and these lines, as a basis, the triangulation can be rapidly extended over the remainder of the northern district of the State.

The precision of the work is all that can be desired, the results both in their quality and quantity having exceeded the anticipations of the professional experts from Columbia College and Union College, selected by the Legislature of 1885, to make a critical examination of the work of the State Surveys.

TRANSIT LINES AND TRAVERSES.

In the field-work required for the searching out of the lines of the property and the location of these lines in connection with the rivers, lakes, roads and general topography, a great number of toilsome and difficult measurements have been made.

An economical management of the work rendered it desirable that the linear measurements connecting the triangulation stations with the boundary lines and topography should be made in such localities and along such routes as were most certain to be visible from the signal stations.

It was for this reason, as has been explained in a former report, that the river and valley lines were selected as the locations along which the precise linear measurements, forming the base-lines of the topographical and land survey work, were located.

These secondary base-lines have been measured with every precaution essential to good practical work. The standards of measurement used were continuous strips of steel — tape or ribbon — graduated to feet, tenths and hundredths of a foot, with adjustable handles, balances and levels. The alignment was, in every case, made by transit, and the measurements repeated to insure accuracy.

Five of these secondary base-lines, thus measured, are from thirty to sixty miles in length, and are connected at various points with township, town and county lines. These points can again be found by reference to the station-marks cut in the stones set to mark the transit stations.

The principal transit and traverse lines are as follows:

	Stations and Monuments.
Between Plattsburgh, Clinton county, and Saranac lake, Franklin county, measured traverse along Saranac valley, number of transit stations........................	542
Between Malone, Franklin county, to Meacham lake, foot of DeBar mountain via valley of Salmon river, measured traverse, transit stations..........................	216
Between Potsdam, St. Lawrence county, and Downey's landing on Raquette river, measured traverse, the number of transit stations being........................	382
Between Willsborough, Essex county, and head-waters of the Boquet river, measured traverse, transit stations....	240
Between Glens Falls, Warren county, and North River station, Essex county (survey of Upper Hudson river), measured traverse, transit stations..................	438
Between Saranac lake, Franklin county, and sources of Cold river (survey of county line), measured traverse, transit stations..................................	318

	Stations and Monuments.
Between Raquette river and the source of Cold river, measured traverse (survey of county line), transit stations,	282
Between Chazy and Chateaugay lakes, connecting State lands with township lines and establishing lines of Old Military Tract for future work, measured base-lines, transit stations	415
Between important corners of State lands and the Adirondack Survey signal stations on Bog mountain and Bald hill, Granshue and Hollywood, St. Lawrence county, measured base-lines, transit stations	181
Between Jerseyfield lake and Stoner's lake (survey of Hamilton, Herkimer and Fulton county lines), measured traverse, transit stations	434
On survey of Upper Hudson from North River signal station to Newcomb, Essex county, transit stations	177
On eight short base-lines and tie-lines in the counties of Hamilton, Herkimer, Lewis, St. Lawrence, etc., transit stations	310
Total number of transit stations occupied	3, 935

In addition to these there are sub-bases measured for lake surveys and local work, which bring the number of transit stations on these secondary base-lines up to four thousand (4,000) in number.

In the technical field-work of the land survey — the restoration of boundary lines — very extensive linear measurements have also been made. These measurements having to be made with care, must not be expected to proceed with the reckless haste which has characterized the old compass work of the past. A great portion of the time is required in the examination and identification of the lines. Accurate measurement requires good weather, and the season during which good work can be done is limited to the brief summer time. The field-work of Assistant Locke during 1883 determined many important lot lines and corners, and his measurements cover over one thousand five hundred chains of line. The work of Assistant Francisco, during the same period, locating equally important lines and corners, affords a record of over one thousand nine hundred chains of careful measurement. All of this work is preliminary to the transit-line work in the new districts, and indispensable in the tracing out and restoration of the lines; yet, necessary and toilsome as these detail measurements are, they cannot conveniently be given in full in the reports without interfering with the clearness of the account of the work and of the results arrived at. They should, nevertheless, be copied or engrossed in permanent form, and should appear in the final publications of the survey as a record of the data upon which the results of the survey are based.

TOPOGRAPHICAL WORK.

The topographical measurements and contour sketching of the ground, while forming a distinct portion of the survey, has accompanied each step of the trigonometrical and linear work. The numerous plane table maps are based upon special trigonometrical and linear surveys; and the exact contour work, with the heights of mountains, passes, lakes and the gradients of roads and streams as far as measured, depend upon careful determinations with engineer's level and rod. In determining the basis for these elevations with engineer's level more than fourteen thousand (14,000) instrument and rod stations have been occupied. The topographical sketching of the ground having been carried on at all of these stations, the data is available for the preparation of the map of the region as soon as the means are afforded for the final computations, reductions and drafting.

Along the lines of levels run to afford an accurate basis for the topographical work, more than eight hundred (800) bench-marks have been cut upon stone reference points. These height monuments will be of the greatest importance in the future engineering work of this portion of the State, and it is respectfully urged that means should be provided for the checking of the field computations, and the copying and engrossing in ink of the records relating to these bench-marks, all of which should be published, in connection with the sketches showing the location of the bench-marks, so as to render this data accessible to any person desiring the use of it in field or office or private engineering work.

From the above brief statement of the results of the detail measurements made as a basis for the topographical work, it will be seen that the four thousand (4,000) transit stations along the secondary base-lines and the seventeen thousand (17,000) rod and instrument stations occupied in the execution of the height measurements, having been in every case occupied as topographical stations, affords over twenty-one thousand (21,000) topographical stations, each affording valuable data for the map of the State lands and Adirondack region.

It is a mistaken policy which allows this valuable data to remain unpublished. It should be printed and issued to the public in the form of maps and reports.

CONDITION OF THIS DATA.

The data in the survey office have been accumulating during a number of years, and the recent reduction of the appropriations has rendered it impossible to complete the computations of so great an amount of work covering so large an extent of country.

The entries and records made in the field by the engineers and surveyors employed upon the work have, of necessity, been made almost entirely in pencil, and portions of the map-work in crayon, and all of this work requires to be copied in india ink or other indelible pigment and should be done by the most skillful draftsmen that can be obtained, in order to produce record sheets equal to the value and cost of the work executed, in a manner suitable to the dignity and importance of the State.

These records cannot, with any propriety, be left in the form of incomplete pencil memoranda. It is essential that they shall be most carefully copied and accurately engrossed under the supervision of the Superintendent of the Survey ; and it is believed that those portions of the records which are not to be published — consisting of repetitions of measurements and details used in checking, testing and proving the work — should be copied in duplicate for filing in different departments of the State to insure their preservation from loss or mutilation.

The results important for reference for the State and local authorities, for geographers, land-owners and travelers, should be published and thus be made easily accessible to all desiring the information.

COMPUTATIONS.

A great number of preliminary computations have been made during the progress of the field-work, sufficient to locate points required to be platted upon the plane-table sheets in advance of the topographical work, and for testing the general precision with which the work was being executed.

Most of these computations have been based upon separate data, which it was impossible at the time to correct and combine. Such detached, single computations made at different times, by different persons, require to be tested by systematic re-computations, under the direction of the Superintendent, in order to render it certain that no possible error has accidentally been made in the preliminary computations, and to make sure that the work has been executed in accordance with the instructions which the Superintendent found it necessary to formulate at the time that the field-work was being done.

These check-computations might have been made during the winters, had the means afforded been sufficient. The limitation of the appropriations, however, prevented the employment of the engineering force during the winters in the reduction of this data, and compelled the Superintendent each year, at the close of field-work, to discharge the greater portion of the survey force, only such clerks being retained in the office as were required to prepare the data for the field-work of the succeeding season—the researches and preliminary computations above referred to.

In the reduction of the geodetic work all of the calculations and adjustments, so far as finished, have been made by the Superintendent, personally, during such intervals of time as the duties of the supervision of the survey would admit. These official duties have been so onerous that months have at times elapsed of necessity before any opportunity would be given the Superintendent to make any computations in the higher branches of the work. The computation of trigonometrical measurements, in accordance with the principles of least squares, requires close attention during their execution. The data and books of reference are too voluminous and too valuable to be transported in the field, while traveling, and such computations should not be made in the midst of other important duties of an executive nature. Reductions of a large number of observations have been made in the shelter of the tents at camping places in the wilderness, but many of these reductions become spoiled and defaced by rain or moisture or by the rough transportation of the baggage, and have consequently to be re-computed. While the observations as they are made in the field require to be carefully studied in order to ascertain by the formulæ of the theory of probabilities, the probable ratio of error — so as to bring the result within similar mathematical limits of precision — yet the theory of least squares, as applied to the final adjustment of a great system of triangulation, requires the field work to be absolutely finished throughout large areas before the final computations can even be commenced.

It was for this reason that the final computations were deferred until sufficient data could be obtained for the reduction of the observations into one harmonious system in accordance with the most approved methods known to modern mathematical science.

While the land survey work shall be in progress the reduction of the trigonometrical observations can now be proceeded with — the more rapidly in proportion as more means are provided for the employment of skilled assistants.

These reductions are already in progress, the computations being made by the Superintendent, as his other duties will permit; but the amount of work is very great, the reduction of upwards of twenty thousand (20,000) angular measurements in the primary and secondary triangulations necessitate the solution of so many conditional equations as to require an almost infinite amount of time of any one computer.

It is respectfully urged that means be afforded for the employment of a sufficient computing force to facilitate the early reduction of this work. Although skilled computers in this department of scientific work are exceedingly rare and demand and receive a high rate of compensation, yet the work is of too important a character to the public and to the scientific world to be compelled to struggle forward under such difficulties, and should be put in form and published in a manner to make the results accessible to the people at the earliest possible moment.

MAP OF THE ADIRONDACK REGION.

It is proposed from the data described, to prepare for publication a map of the entire northern district of the State, on a scale of half an inch to the mile, or 1: 126,720, forming a sheet about seven feet square, or 84x84 inches.

This is designed to be a wall map, to show, so far as the data on hand will admit, the location of the patents, great tracts and townships in the ten counties mentioned in the law of 1883 and, consequently, the general location of the public lands.

No map of the Adirondack region or of the northern district of the State has as yet been published by this department, in consequence of insufficiency of the means for the reduction of the data; the re-computation and platting of the distances, and the reduction of the great number of field-maps in the office to the same scale required for publication.

Additional field-work will be needed to fill in important sections, even upon a map of the smallest scale. This data will be obtained when the survey shall be extended over these areas; but, in the meantime, it is extremely desirable that a preliminary map of the entire district shall be platted and published. Such a map, giving the latest results of the survey, will be of the greatest utility to the authorities charged with the police management and improvement of the public lands; it will enable the Commissioners of the Land Office to act intelligently in regard to their official duties in this district; provide the tax department with a reliable basis for the description of the lands carried upon their books, and will furnish the public with information long desired and greatly sought. More than this; this wall-map will be of the greatest advantage to the survey parties engaged in the extension of the work of the land survey to the different detached allotments of State lands. It will furnish each survey party with an accurate basis for its work, and a map upon which each new discovery can be platted, until all the blank spaces have been filled in and a perfected map at last secured.

If means be given for the execution of this work, this wall-map can be prepared by the close of the present year, and a material advance will have been made in the geographical knowledge of the region, while a permanent basis will be afforded upon which all future surveys can be platted.

MAPS OF STATE LANDS.

Maps showing the results of the surveys of the State lands have been prepared, and a large number of these sheets remain to be completed before they can be filed in the several offices of record as directed by the law. The duplication of these maps is required by the law, but the copies which are to be filed can only be made after an appropriation is provided to meet the expense of the work. All the maps of State lands, which have been prepared in this department, have been made at the expense of the Superintendent, the last appropriation having been exhausted in the field-work.

The mapping of the results of the work done should certainly be completed, and the copies made and filed in compliance with the law. It is hoped that the means for this work will be provided.

PUBLICATIONS.

In addition to the proposed wall-map and the requisite land maps there are numerous topographical sheets, carefully drawn in the field, and finished maps of various sections, which are of so much importance and will add so much to public knowledge of the geography of the Adirondack region and northern district of the State that their publication cannot be too strongly urged.

The maps of the survey of the upper Hudson furnish the first accurate location of the course of the main channel of that river to its source at Mount Marcy, the measurements showing the location of all the mountains and hills which inclose the valley of that stream; the affluents of the river, and all details of topography on a series of plane-table sheets, on a scale of one twenty-thousandth part of nature (1: 20,000).

Similar maps of the Schroon valley line, the Boquet river, the Saranac river, the Salmon river, the Raquette river and the Beaver river, form together an interesting atlas of manuscript maps which, to be thoroughly useful, should be in the hands of the public.

The measurements upon which these maps are based, and the descriptive text which should accompany them, will form the first detailed scientific account of this interesting portion of the State.

It is believed that not only these maps but all the most costly and valuable results of the survey should be embodied in documentary form and published in a series of quarto volumes, somewhat as follows:

I. A volume giving the data on which the results depend, the triangle closures, and the conditional equations, with descriptions of the stations and sketches or plans by which they may be identified.

II. A volume giving the geographical positions, latitudes and longitudes, and results of the triangulation, the distances from station to station in metres, yards, feet and statute miles, with the azimuths, back azimuths and explanations.

III. A volume giving the results of the geodetic leveling to include also the trigonometrical leveling and barometric hypsometry, giving the description of all the bench-marks or height-monuments throughout northern New York, with their precise heights above mean tide level at Governor's island in New York harbor, and tide level and datum at Albany, with the precise heights of mountains, mountain passes, lakes and plateaus, and the profiles illustrating and explaining the work.

IV. A volume on magnetic observations giving the variation of the needle at the many hundreds of stations in northern New York which have been occupied by this survey, with the amount of annual change of variation, and the allowance necessary to be made for the change in the pointing of the needle in the retracing and restoring of the ancient boundary lines of patents and allotments.

V. A volume on the meteorology of the region, giving the rainfall and barometric and temperature observations taken by the present survey, and memoranda relative to the climate of the region, with explanatory text.

VI. A volume of narrative describing systematically the location of the different sections of work; the location of the monuments placed, the signal-stations erected, the measurements by which the copper bolts marking the stations can be found and the adjacent corners and boundaries of lands identified, and all the details of a general and scientific nature that have been observed during the progress of the survey, which form a part of the history of the work, and are necessary to an understanding of it and its future utilization.

Each of these quarto volumes should contain such illustrations (lithographs, photo-engravings, wood-cuts, plates, folding maps and profiles) as may be required to explain the text and identify the localities.

Justice to the work which has already been completed, a due regard to the importance of the information which these volumes will contain, and the dignity of the State whose territory they will describe, renders it important that this atlas and these volumes should be published in the best possible form and manner. It is respectfully urged that power be given to the State authorities to make a special contract for the publication of these volumes as soon as the adjustment of the data shall have been made, the computations completed and the text prepared.

CONCLUSION.

The extent and importance of the surveys which have already been made have now been explained as far as can be without an inspection of the maps and measurements themselves. These maps and these results, to attain their full measure of value to the public, must be printed. The credit of the State requires the publication in proper form of all those results which show the extent and importance of the region, and which convey to the world a knowledge — not only of the true geography of hitherto unexplored portions of New York — but also those facts in regard to its topography and the location of boundaries that define the ownership of property, and which are essential to an understanding of the great resources of this region, and to the closing of the disputes that impede the development of its border settlements.

The extent of the work yet required to be done has been outlined, and has been shown to involve, of necessity, the detailed survey of all important boundaries throughout the ten northern counties.

The extent of territory over which these surveys will have be to made must not be underestimated. The State of Massachusetts, with its seven thousand eight hundred square miles, is little more than half as large as these ten counties of New York. The State of New Jersey, although of larger area than Massachusetts, falls far within the limits of the area of this vast northern territory, yet each of these States has been surveyed in accordance with modern, precise, scientific methods, and Massachusetts is now engaged upon its second systematic survey, required in consequncee of a false economy in the conduct of the original work. South Carolina is also engaged upon a trigonometrical and topographical survey; so that north and south, east and west, the modern systems of survey have been put into practice; the plains of Kansas, Colorado and Nebraska; the gorges of the Rocky mountains and the Sierra Nevadas; the serpentine course of the Mississippi and the Missouri, and the meanderings of the Columbia and the Willamette have been mapped, while the surveys of New York are allowed to languish for lack of the trifling support necessary to carry them to completion.

If New York is indeed a State of imperial dignity and power; of great population, wealth and commercial importance, it should take advantage of those practical methods for reducing the business operations of its people to the more perfect system, which the older civilizations have found to be necessary or advantageous. The British Empire, France, Germany, Italy, Switzerland, India and the distant islands of Japan have their perfected systems of surveys, and the knowledge which these surveys afford forms a basis for public works and improvements. Knowledge *is* power, and accurate information in regard to every physical feature of the State is essential to a proper understanding of our opportunities, and that systematizing of our business methods which can alone bring renewed prosperity.

If the wild territories of the West had been rudely surveyed with the magnetic compass alone, the ownership of those lands would have been involved in the same doubts and complications that have in so many places delayed the development of the resources of New York; but the United States government, by adopting a system of astronomical meridians and parallels, avoided most of these difficulties and placed the location of boundary lines throughout the territories almost upon a mathematical basis. The United States system would have been practically perfect had it not been for the attempt to lay out rectangular townships upon the spheroidal surface of the earth, and this defect can be readily traced to a lack of scientific thoroughness and completeness in the plan. We should profit by the experience of others, and not only replace the magnetic compass by the solar transit and theodolite of the surveyors of the western territories, but go further, and, keeping in the fore-front of scientific advance, show to the world that New York, when aroused, is able to do this work in the most thorough manner, to solve the vexed problem of the past, and to unite and knit together all the detached surveys by the most improved methods known to geodetic science.

The work of triangulation of the northern district of the State is now about half completed. The detailed surveys of the rivers, and the topographical work executed with plane-table, furnish data and maps which should be promptly published. The land surveys already executed have settled the location of many important boundaries, and are a key to the solution of other problems relating to boundaries dependent upon them.

These surveys are necessary and will have to be made. The law requires that this department execute the work. The work has been begun, the researches made, the lands examined, the scientific methods perfected.

An appropriation of $50,000 per annum for ten years would employ an office and field-staff of about twenty trained surveyors, mathematicians, draughtsmen and clerks, and a field force upwards of between one and two hundred assistants, signalmen, rodmen, chainmen and laborers; and would provide for the placing of the monuments at the township and county corners and the perfection of the large scale assessment maps of the entire district.

Compared with the cost of foreign surveys this work will be one of moderate expense. The appropriation would be about one-tenth of the amount annually devoted by the Austrian government to the surveys of its territory, or one-quarter of the appropriation made by the Prussian government for similar purposes each year.

With the really moderate appropriation suggested, a proper force of employees could be engaged and the work rapidly pushed to completion.

The earnest co-operation and support of both the executive and legislative departments of the State government, if continuously given, will render the work remaining to be done comparatively easy. It is earnestly hoped that this support and this co-operation may be given, so that the time of the Superintendent and his assistants may be uninterruptedly employed in the field and office work necessary to insure the results desired.

In the appendix to this report will be found estimates for the completion of the office work on hand and for the preparation for publication of the data of the survey work done. A sketch of the origin, progress, and present condition of the land surveys of New York is also given, and maps, etc., with explanatory text.

All of which are respectfully submitted,

VERPLANCK COLVIN,
Superintendent.

Appendix A.

ESTIMATES FOR THE YEAR 1886.

For salaries of Superintendent, assistants, clerks and surveyors	$19,500 00
For stationery, blanks, forms for records, printing and binding	1,850 00
For engraving, etc., of large wall-map of Adirondack region and northern districts of the State	2,500 00
For the publication of six quarto volumes of the results of the survey of the Adirondack region	9,000 00
For field-work necessary for the filling in of details of topography in special sections	5,000 00
Total	$37,850 00
The contract for the printing of the series of quarto volumes containing the results might be deferred until the text shall be all in form for printing. This would admit of a deduction from the above estimate of	9,000 00
Making a total of	$28,850 00

As the cost of reducing and placing in form the data now on file in this office.

Appendix B.

AN

HISTORICAL SKETCH

OF THE

ORIGIN AND PRESENT CONDITION

OF THE

NEW YORK STATE LAND SURVEYS

BY

VERPLANCK COLVIN,
SUPERINTENDENT.

NEW YORK STATE LAND SURVEY,

ADIRONDACK REGION.

VERPLANCK COLVIN,
SUPERINTENDENT.

(Offices in the New Capitol at Albany.)

This survey, as at present organized, is essentially an administrative work, intended to furnish data for the State government for the better management of the public lands. The survey accomplishes this advantageous result by a revision and correction of the ancient colonial land surveys, by new surveys in accordance with the modern and most improved methods, and by securing such general topographical information as will afford more accurate maps of the State. The object of the work is to render the existing boundary lines permanent, and to restore those which have been lost or destroyed; to mark important property lines and corners of counties, townships or allotments with permanent stone monuments in place of the marked trees or stakes which, until the initiation of the present survey, were the only marks left by compass surveyors for the guidance of owners.

In consequence of the laws — under which the present surveys are being conducted — having required an exploration of the Adirondack wilderness in the northern district of the State, and the rendering of reports descriptive of the character of the region examined, this survey has a scope beyond the usual limits of the cadastral or land surveys; and the scientific departments attached to the State government have, through the medium of the reports of this survey, given an account of the fauna, flora, and mineral resources of the region, and such occasional geological memoranda as appeared to be new to science.

The popular title of "Adirondack Survey" arose from the name of the extensive group of mountains among which a great portion of the work of the survey has been conducted. These mountains extend over a large portion of ten of the northern counties of New York, which have an area more than twice as great as that of Lake Ontario, or more than the combined area of the States of Massachusetts and Connecticut. The Adirondack mountains rise to a maximum height of over a mile above sea level at Mt. Marcy, in the county of Essex, where a group of peaks of laurentian rock, rising above the timber line, possess an arctic flora natural to their elevation and latitude. These are the most lofty summits within the State of New York, and the climate here is, consequently, the most severe in the State. The remainder of this district, although everywhere mountainous, is not so elevated; the summits — at times gathered in groups, at other times extending in ranges — decrease in altitude as the high peaks of Essex are receded from, and while a great number of peaks are found between the elevations of three thousand and four thousand feet above the sea, the greater part of the marginal region is traversed by irregular ranges, whose height above sea level is between two thousand feet and two thousand five hundred feet. The entire wilderness, with the exception of the high Alpine summits and occasional marshes and intervals, beside the lakes and rivers, is a forest so dense as to cut off all view of mountains or other landmarks when once entered. The traveler in these forests can only proceed from point to point with the aid of a skilled guide — one of the inhabitants of the border of the region — whose local knowledge of marked lines and trails, of portages from lake to lake, and of passes through the mountains, render his services absolutely necessary to one unfamiliar with the ground, even though he be a skilled woodman. These dense forests and the frequent beds of pure magnetic iron found throughout the region form the wealth of this portion of New York, and, in connection with the almost limitless water-power and large reservoir lakes which maintain two of the great canals of the State, have wisely received the fostering care and attention of the State government. The value of the products of the Adirondack forests and mines, and of the industries dependent upon them, may be placed at many millions of dollars. These technical considerations, however, are not germain to the history of the survey, although they show some of the motives of the State government in organizing the present work.

It may be necessary to explain that the soil of New York is owned by the State, and that the State government *alone* has the right to take any portion of it by eminent domain. This sovereign right is not possessed by the United States government, for the Federal government cannot so much as purchase any portion of the territory of New York, unless permitted so to do by the passage of a formal act by the Senate and Assemby, approved by the Governor of the State. The wild lands of New York are the territories of the State government alone, and are only subject to the administration and control of the State authorities. Under the Constitution and the laws, the holders of real estate within New York are only the tenants of the State, the real and personal property of any citizen dying, without heirs and without will, reverting to the State. This State ownership of all lands was the consequence of the revolution; the State inheriting from the English Crown all its rights, powers and privileges not extinguished or expressly surrendered to the General or Federal government. The consequence has been that the English common law, especially that portion which relates to real estate, having been the law of the colony of New York, formed the foundation of the law of the State.

It is necessary to bear in mind the origin of the laws of the State, and of the manner in which the laws affect the ownership of lands in order to properly appreciate the system of land surveys now in existence in this State, to understand the object of the many departments of work; the relationship of the scientific methods of measurement to the legal and practical requirements which have led the people through their legislative representatives to formulate the laws under which the present cadastral and scientific surveys are being conducted.

Historical Review.

While it is not necessary to give even an abstract of the colonial and State laws in the present paper, yet a review of the history of the origin of the public surveys of New York is essential to a proper understanding of the difficulties surrounding this work in a portion of the continent where the land titles are most involved and complicated.

From a legal standpoint, the history of New York might be divided into three periods. The first would be the period of the

Dutch supremacy; the second, the English colonial period; and the third epoch covering the origin and progress of the State government down to the present time. The land titles are all originally either by treaty or other form of conveyance, or by conquest, derived from the native Indians, and in the northern portion of the State, near Lake Champlain, a number of extensive grants were made by the French government at an early period. The Indian deeds of conveyance, and the surveys made (with compass and chain) by the purchasers, have still constantly to be referred to in the adjustment of titles in the modern system of surveys, and the ancient land-marks and descriptions of topography along lines traced by the first explorers — the crossings of streams and lakes, the summits of mountains and brinks of cliffs, occasionally described as located upon these boundaries, are now important aids in the re-discovering and monumenting of these governing lines. It is to be regretted that so little mention was made by the early compass surveyors of these characteristic features of the ground traversed by their lines, and that even these brief and occasional notes were so indefinite. In all future surveys the laws should rigorously require precise records of all topographical features of the ground to insure the future identifying of the boundary.

It is owing to the peculiarities and complexities of this ancient system of surveys that a topographical survey alone, independent of the land lines, would be nearly valueless to the State authorities. Maps of the State, and particularly of the State lands, showing only the topography, without the land lines and political divisions, would be considered by the authorities and by the people as absolutely worthless, and would meet with merited scorn and contempt.

The great Commonwealth of New York requires for its maps detailed surveys which shall show every natural feature of the ground, capable of being depicted upon paper, in connection with an accurate plan of all the subdivisions of property and the actual or the theoretical lines which, under the laws, control questions of assessment or taxation.

Such maps, in all civilized countries, have come to be regarded as graphical indices to the system by which the State government cares for the interests of its people; affording at a glance a knowledge of the relationship of the political system to the physical features of the State.

The Cadastral survey of France, covering a country once divided into great feudal estates, was, perhaps, the first organization to encounter these peculiar difficulties. That great work rendered possible equitable assessments, and is one of the noblest monuments of the thoughtful foresight of the first Napoleon.

The land surveys of New York have not been especially modeled after the Cadastral survey of France, but rather upon the combined methods of all the great land surveys whose publications have been issued to the world during the last century. In the evolution of methods, the necessities of the people and the views of State officers as to the extent and limitations of the work have rendered the appropriations small, and have thus restricted the *amount* of survey work done, although the instruments and methods have been the best known to science.

EARLIEST SURVEYS.

As already mentioned, the first surveys were made with chain and compass during the Dutch colonial period.

Only thirty-three years after the discovery of the Hudson the office of Surveyor-General of the colony of New Amsterdam was created, and Andries Hudde being the first incumbent (A. D. 1642). He was succeeded in office in 1648 by Claes Van Elslant, Hulde again taking office in 1654, to be followed by Peter Van Couwenhoven in 1655, who was in turn succeeded in 1657 by Jacques Corteljou, who retained his office until 1671, although the Dutch power had ceased with the capture of the colony by the English in 1664.

The recapture of New Amsterdam in 1673 by the Dutch was but a temporary change, and we may consider that the Dutch system of surveys and measurements — differing only in their linear standards from the existing English system — came to a close with the termination of the official career of Corteljou in 1671.

What the Dutch standards of measurement actually were at that time is not now precisely known. The State office of weights and measures contains no record relative to these measures, nor any standards that have been identified as belonging to this period. Yet the boundary lines as then marked have to-day to be adhered to, and the limits of the patents granted to the Van Rensselaer's, the Coeymans', the Schuyler's, Courtland's and others, were primarily located in accordance with ancient standards, whose length we are now only able to infer from the recorded distances in the ancient deeds between land-marks now rarely to be found. The importance of a knowledge of the standards of measurement during this period will be better appreciated when it is remembered that at this time the "foot" measure of Europe varied in every kingdom and principality.

When we remember that some of the early grants were made in miles during the Dutch ascendency, and that the mile (old measure) of the European continent is usually more than four and a half times greater than the English mile, while the English foot is, on the contrary, greater than the old standard continental average foot measure by from one-half an inch to nine-tenths of an inch, the difficulties which are met with and the caution which has to be used in restoring the ancient boundaries may be understood. Indeed the care and precaution that is required where the lines of the oldest colonial grants are being restored does not end with them, for it is probable that the surveyors of the colonial period sold or transmitted their surveying chains and other apparatus to their successors, so that where the Dutch measures ceased and the English standards prevailed is a question ever presenting itself for solution where the colonial lines are encountered; while the introduction of such worthless measures as ropes and the like, in a few localities, occasion greater difficulties.

Modern survey work in the region of the ancient Dutch patents is thus seen to be complicated by a lack of knowledge of the absolute standards of measurement used under the old Commonwealth, and the natural decay and disappearance of land-marks after the lapse of over two centuries. The difficulties encountered in restoring such boundaries and the location upon the new charts, the true topography within the restored limits might appear to be almost insurmountable, but, by careful study and diligent work, may gradually be made to disappear.

During the English colonial period the office of Surveyor-General of the colony was continued, commencing with Philip Wells in 1683, and terminating — as far as the English government was concerned — with Edmund Fanning, appointed June 30, 1775.

Compass and chain were very active during this period. Almost every piece of unoccupied territory along the Hudson river from New York to the head-waters of the river and beyond as far even as the shores of Lake Champlain, was the subject of barter, and of treaty with the Indians. The western limit of these "purchases"— as they were primarily called before patents had been issued by the Crown — was to the westward of the present city of Utica, the ancient Indian boundary line traversing the fields of Clinton, Oneida county, where Hamilton College now stands.

It was during this period that the famous "Royal grant" was made to Sir William Johnston of the valuable lands to the north of the Mohawk river, and the Jerseyfield patent and many other tracts secured from the Indians; the last great land transaction prior to the American Revolution being the acquisition by an association of speculators, actually led by one Ebenezer Jessup, but nominally headed by two ship carpenters of New York, from whom the great tract of over eight hundred thousand acres takes it name of "Totten and Crossfield's purchase." Ebenezer Jessup undertook to have this large area divided into townships, each of about thirty-six square miles area, for the sum of five pounds sterling per thousand acres, or about $20,000, which was a very considerable sum at that time. The outer boundaries of the purchase were already limited to the southward and eastward by some of the existing patents, and starting from the Upper Hudson the boundaries of this great tract were hurriedly traced with compass, and a great number of township lines marked on the trees. This was in 1772. In a few years the battles of the Revolution brought these enterprises to a close, the Crown lands were confiscated by the Revolutionary government and the English colonial period was terminated.

The organization of the State government found the young Commonwealth exhausted by war; its treasury empty; its only wealth the lands which it had wrested from the Royal power. It was no great discovery in the statemanship which led politicians of the period to advocate the sale of these lands to meet the expenses of government, and their disposal to any one willing to purchase them became the policy of the period. The office of Surveyor-General was renewed March 20, 1781, and the old system of survey with magnetic compass and chain was resumed. Ten years later the land survey work of New York was almost brought to a close by the purchase from the State, by Alexander McComb, of that enormous tract of nearly four millions of acres which was supposed to cover nearly all that remained of the State's possessions in northern New York.

In 1817 the attention of the State authorities was largely engrossed with the proposed construction of the Erie canal, and the decadence of the survey system of the State became more marked. As the canals increased in importance and in number, and as railroads began to be built, a proper system of civil engineering became essential to the economy of these works and to the protection of the public, so that in 1846 the office of State Engineer was created, and he was termed the "State Engineer and Surveyor," the office of Surveyor-General being abolished by law in 1848.

A stupor seems to have fallen upon the surveys of the State from the time of this amalgamation of offices down to the time of the close of the War of the Rebellion. That contest showed the importance and absolute need of accurate topographical maps to a proper understanding of the physicial features of the States, of the methods proper to be pursued for the development of their commercial interests, and for the prompt and safe movement of troops protecting the institutions of the country.

In 1865 the writer of the present paper commenced those explorations of the northern or Adirondack wilderness of the State which have undoubtedly led to the organization, under legislative authority, of the modern scientific surveys of New York. Intending to examine certain wild districts which appeared as blanks upon the maps of the State, and to trace out the course of rivers whose sources and locations were topographically unknown, he searched the records of the State for the data of the ancient compass surveys, and prepared a skeleton-map sketch to be used during his explorations as a basis for study and for graphical memoranda.

Upon examining the region, to his amazement he found that most of the topography as recorded upon the old maps in the office of the State Engineer was erroneous, and of no value as a basis for new work. The guides of the wilderness showed him lakes where the old survey maps located mountains, and mountains where those maps had shown lakes. Many of the ancient surveys were evidently grossly erroneous, though it was to be assumed that the majority of the old compass surveys of the wilderness were approximately as good as the other colonial surveys. But this was found not to be the case, as the local attraction of the magnetic iron ores of the Adirondack region caused great variations in the magnetic declination, and the rough and mountainous nature of the district had led to errors in the chain work not to be expected in the more level portions of the State.

These explorations were continued personally, and at the private expense of the writer of this paper during the years 1866, 1867, 1868, 1869, 1870 and 1871. In 1870, at the request of the Secretary of the Board of Regents of the University, he communicated an account of the first ascent and measurement of Mt. Seward, made by him that year. To this mountain had been attributed a height of five thousand one hundred feet above the sea by the State Geological Survey. This, he proved by his actual measurements, had been but a rough guess, exaggerating the height of the mountain. After different ascents and repeated measurements, the writer found that the summit of Mt. Seward was actually seven hundred feet lower than the height attributed to it. It was therefore probable that many other mountains whose heights were recorded in the reports of the State Geological Survey as exceeding five thousand feet above the sea were really much lower, and that the general topography of the region as exhibited upon the existing maps was grossly inaccurate. By 1872 he had accumulated a great amount of detailed information relative to the topography of the Adirondack region, but in attempting to arrange this data within the limits of the surveys of the ancient patents found great difficulty in executing the work, which was only explained by his accidental discovery of the many and frequent variations in the magnetic declination throughout the region. As the region was a dense unexplored forest, the magnetic compass had been, until the present time, deemed absolutely necessary in traversing the region, and it was believed by all forest surveyors to be sufficiently accurate for explorative surveys. When back and fore sights were compared from various points the irreconcilable errors caused by the deflection of the needle induced by the beds of iron or disseminated crystals of magnetite in the rock, showed that an accurate survey could only be made by a triangulation developed from precisely measured base-lines located on the cleared plains at the margin of the wild region as a basis; the details of topography being worked in by the means of the plane-table or by line surveys with transit, etc.

About this time the United States Coast Survey commenced its hydrographic work on Lake Champlain, and it occurred to the writer that some of their base-lines might be made available for the triangulations of the interior.

Against his proposition to thus continue this great work at his own expense his friends protested. It was truly said that the expenditure necessary to be incurred would be very great; that the labor of years would be required; that his private fortune would be impaired by attempting such a work, and that as he possessed no lands or other interests in the region proposed to be triangulated to receive the benefits of so precise a survey, it would be unprofitable to him and, therefore, should not be attempted.

On the other hand, he claimed that he had given too many years to the study of the topography of this region to leave the work unfinished.

It was then suggested that this was a work of a public character which the State should have executed, and if done by private enterprise it should at least receive the aid of the State as a work of public benefit.

Application was accordingly made to the Legislature and a small appropriation — less than was asked for — was granted, a report being required of the results of the survey. The report, the first of the Adirondack Survey series, was duly transmitted to the Legislature of 1873. It gave a narrative of explorations made during 1872, and an account of the initiation of the trigonometrical work by a series of reconnaissance measurements with a light theodolite, the lines extending from the proposed base at Lake Champlain westward over the high summits of Essex to the heart of Hamilton county. The appropriation was found to be totally insufficient for the work contemplated, but discoveries of great importance were made; the highest lakelet source of the Hudson river was discovered near Mount Marcy — Lake Tear-of-the Clouds, four thousand three hundred and fifty-one feet above the sea — and the dividing line between the head-waters of the Hudson and St. Lawrence traced and mapped. A large number of height determinations were made with mercurial mountain barometers — constructed by James Green on Fortin's principle — and twenty-two important mountains were ascended and measured during the progress of the work.

This report was received with favor by the Legislature and a larger appropriation was granted for the ensuing year. During 1873 the triangulation (still of the character known to military surveyors as "reconnaissance triangulation," was continued with light theodolites. During this season the system proposed was developed, the heliotrope was used in observing to very distant stations, and a very convenient form of automatic flashing signal was devised by the writer and placed at numerous stations, doing good service for distances nearly as great as those for which the heliotrope had been employed. The law making the appropriation required the exploration of the wilderness to be continued, and the investigations were extended over new areas; the natural drainage basins of the region were examined, and over one hundred and eighty lakes reconnoitered and referred upon the maps to their true river systems, either approximately, upon the field charts, or routes of survey found by which their position would be determined by future work. Most of these lakes were hitherto unknown to geographers, and many of them appeared never before to have been visited by man, being located in the dense *Cough-sa-gra-ga* of the Indians, which has been translated as the "howling wilderness," or the fearful enchanted desert void of game and food and dreaded by the ancient habitants as the awful region of sterlity and starvation.

In examining the region of Adirondack lakes, a study of their elevations showed that many bodies of water belonging to different river systems were located so nearly at the same level that they could be connected by short canals. This was first suggested in regard to the Raquette river waters by Prof. Benedict — since deceased, — who made many barometric observations in the region as early as 1840. This system of barometric measurements was extended during the present survey by direction of the superintendent, and it was proved to be only available for reconnaissance. For this reason, from this time forward (following 1873–74) all differences of level between lakes were determined with engineer's level and rod in accordance with the system hereafter described.

It is not necessary to detail the work accomplished during each season. Mention of a few prominent results will give an understanding of the nature of the survey.

The panic of 1873, and the disasters in business following that period, caused a reduction in the appropriations by the State, and compelled the Superintendent to make large personal expenditures to carry the work forward.

In 1875, the first measurement with engineer's level and rod, of Mt. Marcy — the highest summit of New York — was made by the Superintendent with two assistants, and the usual survey force, and the height found to be five thousand three hundred and forty-four feet above the sea. Forty miles of levels were run during this season, and a great amount of other important work done. During 1876 the trigonometrical reconnaissance measurements were extended to the northward and southward of the central line examined in 1873, and a line of levels run with engineer's level and rod nearly half-way across the wilderness — from Beaver lake, near Lowville, Lewis county, to Beach's lake in Hamilton county. A traverse was at the same time carried along southward of the Beaver river and the first maps of that hitherto unlocated stream were now secured.

Space does not admit of a detailed account of the work of the survey; this must be sought in the published volumes of reports, of which thousands of copies have been issued by the State. Only such results as indicate the character of the work being done can be given. In 1877 the line of levels across the wilderness was completed, the chain of measurements extending from Westport on Lake Champlain across the counties of Essex, Franklin, Hamilton and Herkimer into the county of Lewis. These measurements gave the true heights of a great number of important points in the region of the head-waters of the Au Sable, Saranac, Raquette and Beaver rivers, and the hundreds of stone bench-marks located will remain as permanent monuments and bases for all height measurements. There is no space to refer to topographical and trigonometrical work, accounts of which are given in the reports.

In the report rendered by the writer to the Legislature for the year 1873, he had recommended a general trigonometrical and topographical survey of the State. It appears, from statements recently put forth, that such a survey had been previously recommended by different Governors of the State, but without action by the Legislature.

The present recommendation was, however, promptly acted upon. In 1876 an appropriation was made for this survey under a board of commissioners, providing for surveys in the southern and western portion of the State. In 1878 both the Adirondack and State Surveys were reorganized under their existing officers, and further appropriations made. Inasmuch as the work of the State Survey has been elsewhere very fully treated, the writer will confine this recital to the work placed under his exclusive superintendence — the Adirondack and State Land Surveys — only remarking, with regret, that the work of the State Survey was at this time limited by law to a simple triangulation, the law prohibiting the State Survey from executing topographical or land surveys.

During this period, although the State had absorbed the results of the Adirondack Survey in the reports rendered during the six years between 1872 to 1877, inclusive, as well as the results of the six preceding years of study of the topography of the Adirondack region between 1865 and 1871, not one dollar of salary or compensation for his services had been paid to the writer of this paper, although he had from his own private funds paid a great portion of the expense of the work of survey. The value of his time given to the study of this region during these twelve years, taken in connection with his personal expenditures during this period, have been estimated at over $60,000. During six years of this period the State made appropriations amounting to a little over $11,000. The balance due the Superintendent and the salary promised him have never been paid, although the sum of $5,000 was appropriated in 1873 for this purpose, and still lies in the treasury of the State, unexpended.

This statement is made in order to record the financial conditions under which this survey has been conducted, and the great personal cost at which the Superintendent has prosecuted the work.

During the six years following the period above mentioned — *i. e.*, between 1878 and 1884 — less than $15,000 was paid to the Superintendent for his services in conducting the survey, and nearly one-third of this sum was expended in paying expenses of additional work ordered by the Legislature, for which either no appropriation or only inadequate appropriation was made.

It was under these conditions that, in 1883, before the expiration of the law regulating the Adirondack Survey had expired, a new law was passed creating the State Land Survey, and making appropriation therefor, and the Superintendent of the Adirondack Survey was, in the same law, directed to take charge of the new work.

Thus organized, the State Land Survey was begun in 1883; and, as the law directs that "the methods of survey shall be in accordance with those now in use on the Adirondack Survey," the new work was rapidly systematized and the methods of survey adapted to the new and extended field of action. As this law placed the location of the boundaries of the State lands absolutely under the direction of the Superintendent of the Adirondack Survey, and required the preparation of land maps of ten of the largest counties of the State — Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren — whose united area is nearly equal to fifteen thousand* square miles, the enormous amount of work involved will be appreciated.

To settle the disputed boundary lines alone — the subject of the legal controversies of half a century — would require a careful legal examination of the ancient records, of the royal grants, of the patents from the State, of deeds, conveyances and tax sales; a work sufficient to form the labor of one department. From these descriptions the tracing out and restoration of the original boundaries in accordance with the colonial magnetic surveys, the discovery of boundary trees anciently marked in the forests of the wilderness, and the restoration of the points of departure or closure of lines (called corners), the discovery of the causes of legal controversy, of the accidental errors of the ancient surveys, and the measurement of the true distances and directions, formed the land survey proper — in itself a special department of work.

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* Deducting the south part of Herkimer county, fourteen thousand square miles.

The topographical sketching and requisite measurements in the interior for the determination of heights and the location of the physical features — mountains, rivers and the like — the details of map-work formed still another distinct department, of necessity closely associated with the land-line work, but requiring the services of trained topographers.

The connection and tying together of all these different departments of work into one harmonious system, by the precise methods of trigonometrical measurement, and their orientation by reference to the primary meridians and parallels of the United States Coast Survey, formed the necessary complement to the other departments of work.

The State Land Survey was therefore reorganized in accordance with the system above outlined, and the results of the first season's work are given in the report published in 1884, a volume of three hundred and forty-three pages, which is accompanied by illustrations and maps. During this season alone thirteen survey parties were placed in the field.

The general functions of the survey, the manner in which it arose — a natural and systematic growth — the laws instituting the work and their modifications have now been sufficiently outlined for the purposes of an historical sketch.

The work is not connected with any other department or institution directly or indirectly, although under the special law of 1883 copies of certain land maps are to be filed, when completed, in the offices of the Comptroller and of the State Engineer.

The laws require the Superintendent to make his report directly to the Legislature, who alone have the power to grant appropriations for the support of the work.

The appropriations are usually made annually in accordance with the general laws, the amount requisite being collected in the general tax levy, which is paid over to the State Treasurer and by him only issued to the parties authorized by law to receive the same on the warrant of the Comptroller, who is the financial officer of the State. All payments that are made from such appropriations must be accounted for by detailed bills of items with formal vouchers in writing duly signed by the payee and countersigned by the officer making the payment. All such accounts submitted by any officer must contain a specific statement as to the payments made, the nature of the duties performed, or of the material or supplies furnished, and that the same were requisite and necessary and were expended or used in the service. Such accounts are kept in duplicate or triplicate in accordance with the number of responsible officers through whose hands they pass, the originals being filed in the office of the Comptroller.

It has been already explained, that upon this particular survey when the appropriations of the State were insufficient the Superintendent — the writer, Verplanck Colvin, who has had charge of the work since its inception—has laid out his own means and has carried forward the work at his own expense. It is necessary to recall this fact in order to prevent the impression that the results of the work are derived entirely from State appropriations.

ADMINISTRATION.

The State Land Survey, as at present organized, consists of one Superintendent, selected by the Legislature. The Superintendent of the State Land Survey, like the other superintendents of State departments — the Superintendents of Public Instruction, of Public Works, of State Prisons, etc., has almost absolute control of the work. This system has been adopted after long experience of large commissions and boards whose slowness of action has been deemed by the Legislature to militate against the promptness in executive work required in these special departments.

The Superintendent of the Survey has sole power of appointment and removal of subordinates. His own salary was fixed by law during certain periods, but is now left subject to the decision of the Legislature. The salaries of all subordinates are annually fixed by the Superintendent and are paid by the Comptroller from the regular appropriation for the survey.

OFFICERS.

SUPERINTENDENT.

Salary fixed by the Legislature.

ASSISTANT IN CHARGE OF OFFICE.

Office continued from year to year. Salary in accordance with annual schedule as submitted to the State Civil Service Commission. Duties. General charge of office; oversight of office work; issuing of instruments and supplies to survey parties, and has charge of inspections when ordered by Superintendent.

CHIEF CLERK.

Usual functions. Has charge of general correspondence under instructions of Superintendent. Salary as above. (See Civil Service Commission Report.)

LEGAL CLERK.

Must be a member of the bar of the State; specially acquainted with laws relating to real estate, and familiar with the making of searches relative to titles. (Salary as above.)

COMPUTERS.

Must be familiar with the special classes of computation to which they are assigned. Have been employed by the month — except the chief computer — salaries ranging from $60 to $104 per month.

DRAFTSMEN.

As the topographers and their field assistants are best able to reproduce their field-work accurately in the form of maps the drafting has been usually assigned to the officers making the surveys. Most of these officers are superior draftsmen, although differing slightly in their styles of work. By having the map-work done by the field topographers great precision has been secured in the first drafts. The combining and unification of all of the topographical data of the survey by skilled technical copyists is now under consideration. This, it is expected, will afford a uniform series of maps of the entire district under survey.

DIVISION OFFICERS.

The area of work being so great, and the details required being actually enormous — it has been found necessary to divide the entire region into districts, usually consisting of one or more counties. Thus for the purposes of the Adirondack Survey, the region was divided into the following districts or departments, to each of which was assigned a resident engineer.

NORTH-EASTERN DIVISION.

Engineer's office at Plattsburgh, Clinton county, New York.

MIDDLE EASTERN DIVISION.

Engineer's office, Port Henry, Essex county, New York.

SOUTH-EASTERN DIVISION.

Engineer's office, Ticonderoga, Essex county, near line of Warren county.

NORTH-WESTERN DIVISION.

Engineer's office, Raymondville, St. Lawrence county, New York.

MIDDLE WESTERN DIVISION.

Engineer's office, Naumburgh, Lewis county, New York.

SOUTH-WESTERN DIVISION.

The work in this division was never permanently assigned; different officers having charge of the work at different times. The central division and the middle western and middle southern divisions have been similarly circumstanced, the special surveys in those divisions having been from time to time under the direction of the engineers in charge of the adjacent divisions. This was not the result of method, but arose from necessity, the appropriations being too small to maintain these last-mentioned divisions on a permanent basis.

SALARIES OF DIVISION OFFICERS.

The salaries of the assistants in charge of these divisions have hitherto been $104 per month, with the addition of traveling expenses (transportation and subsistence). In a few instances a commutation of subsistence was allowed, or limits were fixed within which the subsistence expenditures were required to be kept. Repairs of instruments were also made at the expense of the survey upon the principle that the accuracy of the work required the best instrumental means, the maintenance of the perfection of which might be endangered if the assistants were required to personally keep them in repair. A parsimonious man will sometimes work with an instrument in poor condition if it has to be repaired at his own expense, and the value of work thus done will be greatly lowered. By promptly ordering any instrument not in perfect repair back to the instrument-maker, and by keeping in reserve extra instruments for such contingencies, work has been greatly facilitated and accuracy secured.

The transportation, subsistence and repairs of instruments are uncertain quantities, and before being paid for are subject to rigid scrutiny, and are only settled after the sworn statement has passed the examination of the accountant at the central office, and after a final examination by the Superintendent. The accounts are then transmitted to the State Comptroller where they undergo a final examination before they are audited and ordered paid.

This system, as regards field expenses, transportation, subsistence, repairs of instruments and the like, applies to every division of the survey work, and to every officer or employee.

The entire system has been developed since 1872, by the Superintendent, and a series of blanks for reports of various kinds, for requisitions, for returns of property, financial statements, blanks for vouchers, etc., have been devised by him and are in use upon the survey.

SUB-REPORTS.

The division officers are required to report at the close of each week their progress, their expenditures, pay-roll, bills paid, bills due, supplies required, signals built (with diagram maps showing triangulation stations visible from) and any facts relative to the geology, mineralogy, botany or zoölogy which they may deem of interest or importance. These last features of their reports relate, of course, to those matters which are of the nature of discoveries or at least of hitherto unknown facts relating to the natural history of the country which have been noticed. They are not directed to make researches in natural history, but original papers written by savans or members of the survey staff, or by residents of the region whose information would otherwise be lost, are given a place in the reports in order to preserve the data.

SUBORDINATES.

The division officer engaged in work in accessible districts is allowed a force of seven assistants, which is increased if the difficulties and importance of the work require it.

His staff consists of one transitman, one topographer, two flagmen, two "chainmen" (with steel tape), one teamster,* cook and camp keeper. The transitman and topographer's duties are sometimes combined; the chief of party assisting at the transit.

In dense woods a number of axemen are required, and when the work reaches any distance from roads, a corps of packmen are employed, the forests on account of swamps, fallen timber and precipitous rocks being generally impassable for pack horses.

The salaries of the above employees range from ninety down to forty dollars per month and expenses.

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* When working near roads; replaced by packmen, etc., when the work is in wilderness.

In engaging men they are informed that they are expected to assist upon the work in many ways; they are expected to carry knapsacks proportioned to their several strengths, they are to furnish and care for their own camp equipments, blankets, tins, knives, forks and the like, which are to remain their own property. These rules have sometimes to be modified or relaxed on account of the carelessness or negligence of subordinates, but the officer who issues blankets, clothing, etc., to any subordinate is held personally responsible.

WORK OF THE DIVISIONS.

The work of the divisions is the execution of the detailed cadastral surveys. As far as executed to the present time they may be subdivided into

First. Surveys of secondary or topographical base-lines.

Second. Surveys of boundary lines, *i. e.*, county lines, town or township lines, and the adjacent or included topography.

Third. Surveys of roads, etc., and their location in connection with the topography.

Fourth. Surveys of rivers and other waters, including meanders where the detail maps are of a sufficient scale to show the features of ground measured. When surveys are made of the larger lakes and rivers with much minuteness of detail in the map work, this is classed as hydrography.

Wherever practicable, in any division, these different classes of work are combined and carried on at the same time.

TOPOGRAPHY.

Along lines and in dense forests the topography is sketched to scale, in topographical field books of different dimensions.

In the open country, for large lakes and from mountain tops, the Plane Table is used, the field drafting being made on a large scale for convenience in sketching, and reduced for publication.

TRIANGULATION.

The many distinct and widely separated surveys in the several counties are connected and tied together by a precise system of triangulation based upon lines furnished by the United States Coast Survey, numerous bases of verification being afforded by the same surveys along the borders of the region. The western limit of the region is along Lake Ontario, where the base-lines and triangulation of the United States Army Engineer Survey of the great lakes is also available for verification, while the survey of the shore line of Lake Ontario and the river St. Lawrence afford a topographical base which can be accurately laid down upon any map scale and made the line of departure for work upon the western border.

The first base-lines used by the Adirondack Survey were those on Lake Champlain measured by the hydrographic parties of the Coast Survey. Subsequently those were replaced by the great geodetic lines of the Coast Survey primary triangulation, which were developed westward from the Atlantic seaboard to the heights fronting upon Lake Champlain, Lake George and the Hudson river near Glens Falls and Saratoga. This change of base-lines and connection with the primary lines of United States Coast Survey, renders necessary the recomputation of the trigonometrical and geodesic work and will take much time.

FIELD-WORK.

The field-work of the triangulation as been executed by the Superintendent personally or under his immediate direction, with the best instrumental means at command, the observations having been taken, whenever practicable, during the morning and evening hours which are most free from irregular refraction.

All angular observations are repeated first in the direct and then in the reverse position of the instrument, the observations being continued until the requisite degree of accuracy has been attained.

The horizontal measurements are made at a different hour from the vertical measurements; the trigonometrical leveling being confined to horizons of observation from selected stations. The system followed upon the Adirondack Survey for trigonometrical leveling affords very precise results, and is hereafter explained in the description of the leveling operations.

INSTRUMENTS.

The theodolites used in the work of triangulation were constructed by Troughton and Simms; by William Würdemann and Fauth & Company of Washington, Stackpole and Brother of New York, by Oerthling of Berlin, and other makers. They were employed in the measurement of the horizontal angles. The greater portion of the measurements have been made with the Würdemann and Fauth instruments, which have given excellent results, the triangles at times closing almost exactly after the corrections for spherical excess have been applied. Whenever any considerable differences in the closure of triangles have been found they have been usually traceable to observations taken during periods of irregular refraction, in the heated portion of the day. Rejecting such observations the closures are exceedingly satisfactory.

In the detail surveys on transit lines and in the geodetic leveling, the instruments used were chiefly those of W. and L. E. Gurley of Troy, and Stackpole of New York, and were found to afford extremely satisfactory results.

SIGNALS.

The signals employed upon this survey are various in kind. Automatic and hand heliotropes, and other light reflecting signals have been used with success; two forms of these signals, devised by the Superintendent, having been of great utility. For night signals lamps of various styles have been used, one form devised by the Superintendent being believed to be the most effective signal lamp yet invented. All these devices are, however, very expensive as they require the constant presence of a signalman for long periods of time and at all the signal stations, in any horizon of observation, at the same time. The impracticability of the use of these methods at all stations of observation has made it necessary to limit their employment to stations not otherwise visible. At all other stations the pyramidical signal of timber with a high central mast has been employed.

In executing the triangulation more than one hundred and twenty signal stations have been used, leaving about an equal number of primary stations to be hereafter occupied to perfect the plan of the cadastral survey.

These signal stations rise from twenty-five to sixty or eighty feet above the ground or rock at the station, or sufficiently high to be seen above any fringe of forest or other intervening obstacle. They are heavily framed of very substantial timber and secured to the rock at their bases by heavy iron bolts let into drill-holes and tamped with lead. The center-pole is at the exact symmetric center of the signal, and its position is marked in the native rock or stone monument by a deep drill-hole in which is set a nickel-plated copper bolt bearing the number of the station, the title of the survey, and the year in which the work was done.

These signals are constructed by a signal corps under a head signalman. The salaries paid are in accordance with annual contracts for skilled labor.

TRIANGULATION.

Should the full plan of triangulation be carried out over all the counties mentioned in the Law of 1883, the final adjustment of the entire triangulation by least squares will involve the computation of nearly one thousand conditional equations. These may be separated into as many blocks of quadrilaterals and triangles as may be considered most convenient and consistent with precision. The amount of labor involved in these computations will be very great, and in view of the uncertanties surrounding the progress of the work it has been deemed best to make only preliminary computations, and to await the closure of field-work before the final adjustment shall be attempted. Another and equally potent reason for deferring this work of adjustment is the fact that the basis of survey — the lines of the United States Coast Survey transcontinental triangulation and Army Engineer work on the Great Lakes — has not been finally adjusted into one harmonious system; and although the differences in the linear values and astronomical coordinates of these two great national surveys is now known at one point — the data is not sufficient for the final adjustment of the State surveys dependent thereon.

The adjustment of a portion of the primary work of the Adirondack Survey by least squares is in progress, but may not be computed for some time.

This is a scientific question and should be deferred until the triangulation is completed. In the meantime trigonometrical computations sufficient for map purposes will be made, and the topographical drafting and the publications will proceed as fast as the requisite appropriations are afforded.

LEVELING.

The division of levels is only second in importance to the department of triangulation — affording as precise a measurement of heights as the triangulation does of distances.

The levels of the Adirondack Survey are made with engineer's levels of the best construction, upon standard graduated rods divided in duplicate English and French measures. The rod is held in a tripod, with leveling head, and is made precisely vertical and clamped. The duplicate readings are recorded and then converted by computation and compared. If they agree, the first readings are retained, otherwise repetitions are made until agreement is reached. By this system every sighting of the level and setting of the target affords two rod readings by different verniers upon independent scales.

The Adirondack Survey levels are connected with the mean tide level datum at Governor's Island in New York harbor by two lines of levels, one run by the Coast Survey, the other by the Army Engineers to the commencement of the Erie canal at Albany. From this point northward the Adirondack Survey levels extend by various routes as far north as Canada, and as far west as the Black river near Lowville.

Seventy-four separate sections or lines of levels have been run with precision, along the various valleys, through mountain passes or between lakes, establishing their heights and determining their availability for reservoir purposes or the routes by which water can be conducted to them or from them.

NECESSITY FOR PRECISE LEVELING.

If the surface of the earth were everywhere smooth, without any elevation or depression, it might be considered as a perfect spheroid. If such were the precise figure of the earth, it would have no topography, for there would be no mountains, seas, hills, lakes, rivers or drainage.

Difference of level, therefore, is the sole cause of the existence of topography; in other words the heights and depths constitute the topography, and a topographical survey must therefore include the primary elements of height and depth that form what is called the relief or, more popularly the "natural features" of the region.

These primary elements are the highest and the lowest points. The summits of the mountains, passes and divides form the maximum; the deep depressions of the lakes, the long gradients of the river valleys forms the minimum. Between these limits are located all of the characteristics of the ground of which a knowledge is important.

The triangulation and plane-table work, it is true, give the location and form of these natural features, but the leveling, or height measurement alone determines whether they rise in mountain walls as insuperable impediments to progress, or are spread out into broad plains, easy of access. No topographical sketch, however nicely drawn, will indicate to any eye whether the country is passable or impassable unless some height measurements have been made the basis of the drawing.

To afford elevated datums for the trigonometrical leveling, and for the determination of the local co-efficients of refraction, many of the principal Adirondack mountain peaks were directly measured by leveling from tide, one of them* being the focus of three lines of levels. Among these important summits are

Some of the more important of these horizon stations are given in the following table:

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* Mt. Marcy or Tahawus.

TABLE

Giving heights of important Horizon-stations,

DETERMINED WITH LEVEL AND ROD.

(Reference points in the trigonometrical leveling and contouring.)

NAME.	County.	Town.	Height above tide in feet.
Mt. Algonquin (summit of McIntyre range)	Essex county	North Elba	5, 112
Black Mountain (of the Horicon range)	Washington county	Dresden	2, 661
Crain's Mountain (Johnsburgh group)	Warren county	Johnsburgh	3, 254
Gray Peak (Marcy group)	Essex county	Keene	4, 902
Mt. Haystack (of the Gothic range)	Essex county	Keene	4, 918
St. Regis Mountain (St. Regis group)	Franklin county	Brandon	2, 888
Mt. Skylight (of the Marcy group)	Essex county	Keene	4, 889
Mt. Tahawus (summit of Marcy group)	Essex county	Keene	5, 344
Mt. Whiteface (summit of the Whiteface group)	Essex county	Wilmington	4, 471

These are, however, but incidents in the work of height measurement, for the total number of instrument and rod stations made in executing the *seventy-four lines of levels* mentioned, is fourteen thousand one hundred and eighty-six.

The lines are preserved by more than a thousand bench-marks and permanent stations cut into the rock. The bench-marks of this survey are usually cut upon the native rock or upon great boulders, and are indicated by smooth knobs surrounded by a circular groove cut deeply into the stone. The recorded height refers to the top of the embossed knob, and is found by noting the number of the bench-mark (which is also marked by deeply-cut figures in the rock), when, by reference to the reports of the survey, the recorded height above mean tide level of the bench-mark in question will be found.

From these bench-marks, side lines can be started with precision in any direction and heights above tide determined by vertical limb of transit or plane table alidade in the topographical work. These bench-marks are, in fact, indispensable in the preparation of the topographical maps, as upon them depend all the heights — the mountains and mountain ranges and contours.

Trigonometrical Leveling.

The preceding description of the direct methods of geodesic leveling have already given an idea of the methods pursued on this survey for the determination of heights. From the mountains which have been carefully measured by direct leveling the trigonometrical leveling extends by a system of zenith distances in which maximum and minimum zenith distance stations having been selected and their true zenith distances determined by many observations a series of differences read with bifilar micrometer and delicate level afford all of the other heights within the horizon.

This special method of trigonometrical leveling is capable of great precision in its results. Inasmuch as most of the mountain tops are forest covered, the wooded ridges are merely referred to with sufficient care to insure accuracy in the contouring and heights, and the reciprocal zenith distances are limited, necessarily, to the signal stations occupied.

By the process just indicated zenith distances can be observed, during favorable weather, with wonderful precision. It is, in fact, an extension of the application of the zenith telescope principle to terrestrial work. While the application of the micrometer eye-piece to this purpose is not novel, yet the method devised by the writer, whereby all of the micrometer readings are thrown between maximum and minimum limits of nearly absolute zenith distance, is believed to be new, and this last-mentioned improvement certainly serves to give the geometrical limits so desirable in forming the conditional equations in the final adjustment of the work by least squares.

Besides this primary trigonometrical leveling, secondary and tertiary observations for the inferior heights are taken with light portable instruments by the common direct measurement of vertical angles.

The formulæ used in computation are the same as those employed upon all other similar surveys.

In the primary vertical work and in the secondary work, where the distances render it necessary, due attention is paid to the barometric pressure and temperature of the air at the time of observation, especially where reciprocal zenith distances are not observed.

Little of this work has, as yet, been published. The reductions are in progress.

PLANE-TABLE TOPOGRAPHY.

The plane-table work of the Adirondack Survey has been by necessity, owing to the denseness of the forest, confined to two classes of ground, viz.: (1st), The region commanded by the open mountain summits, and (2d), The partially settled and cleared lands along the river valleys.

Connected plane-table surveys have been made of the eastern-central mountain groups, and detached plane-table sketches of lake, and other sections where the topography could be worked in by this process.

A system of plane-table sheets for the whole region has been perfected, but the completion of the plane-table work involves the erection of a great number of high tripods and towers upon nearly every commanding summit throughout the entire extent of the forest-covered region, and for this no means has yet been afforded.

The topography of the survey of the upper Hudson is to a great extent plane-table work and has resulted in the production of a number of beautiful manuscript maps. In other districts the forest has so shut in the topographers that they have preferred to work with light transits from station to station, platting angles and sketching topography wherever the openings in the forest permitted. This latter method is merely a modification of the plane-table process suited to the conditions governing the present work. The topographical work by this modified process is probably superior to the small scale plane-table work; is more of an engineering work, and affords a more detailed record of the physical features than the ordinary plane-table process. The field-book record of distances measured and angles observed makes the groundwork of the maps of this system independent of the purely graphical work, which can under this system be reproduced on any scale by any of the various mechanical devices now in use for such purposes.

It is proposed during the coming season to reduce from the plane-table sheets and the topographical notes of the modified system a map of the region as far as surveyed. This map is intended to be a wall-map or a scale of 1:126,720th or one-half an inch to the mile, which will make a map sheet of 84 by 84 inches. This scale is the largest, for a wall-map, that is consistent with the area indicated. The scale adopted permits the surrounding settlements and the approaches to the region to be shown, together with the location of the base-lines and the inclosing systems of triangulation of the United States Coast and Geodetic Survey and of the Great Lake Survey of the Army Engineers which form the geometric limits of the State Land Survey.

An atlas of the entire region upon a larger scale is also in preparation.

CABINET.

The survey maintains a cabinet, in which are placed the blocks cut from the line and corner trees in the search for the boundaries of the ancient land patents. Those blocks only are preserved which have been identified as from boundary trees at definite points upon the lines which are being restored. Upon each block is placed a memorandum from the records of this office, specifying the date of the original marking, the name of the patent, the date on which the block was cut, and other facts relating to the survey and restoration of the line. These are termed the "proof blocks" of the boundary line surveys, the identification of the boundaries sought being greatly aided by a study of the number of annual rings of woody growth which have accumulated since the first marking of the tree. An incision is made into the wood "across the grain," not, however, exactly at right angles with the vertical in which the tree grew, but in an oblique plane. By this means the section of the tree made shows each layer of the fibre on an enlarged or diagonal scale, convenient for counting the annual annulars which is done with the aid of a microscope in order to insure the counting of the occasional tissue-like rings (or layers) which mark the years of feeble growth.

The blocks have been taken from the following species of trees, which are mentioned in the order of their relative goodness in the preservation of survey marks, viz.:

White pine	*Pinus strobus*
Norway pine	*Pinus resinosa*
Black spruce	*Abies nigra*
Hemlock	*Abies canadensis*
Tamarack	*Larix Americana*
Yellow birch	*Betula excelsa*
Maple	*Acer saccharinum, Acer rubrum, etc.**
Elms	*Ulmus Americana*
Cedar	(*Arbor Vitæ*) *Thuja occidentalis*
Balsam	*Abies balsamea*
Beech	*Fagus sylvetica*
White birch	*Betula populifolia*

The iron-wood (*Ostrya*), and blue beech (*carpinus ?*) have not been so generally marked as to admit of an opinion as to their permanence. Indeed the scale above given is variable. The white cedar and the balsam would stand high in the list, but for the frequency with which they are found with dead and decayed cores, in which the line-marks are lost. This last remark applies particularly to trees of these species in lowlands and swamps. The beech seems to live to a good age if the bark be not disturbed ; the old line-mark — three blazes on each side — is, however, very trying to this tree, although some thrifty specimens manage to perfectly heal the wounds in from thirty to sixty years so as to show hardly a trace in the bark, except a grayish mildewed-like space upon its surface barely discernible, and only intelligible to a thorough expert.

The collection of proof-blocks is contained in glass cases along the walls of the spacious map-room of the Survey in the Capitol. It forms a rare, if not a unique study in economic botany, and is probably the only collection from such marked trees, whose history and dates of marking are unquestionable. It affords the data for the study of the interesting question which has arisen as to the reality of the systematic growth of trees in our forests, and answers the question in the affirmative.

These proof-blocks are thus preserved as part of the records and evidence by which the new stone monuments and nickel-plated copper bolts have been set by this Survey to permanently preserve the lines and corners.

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* The *A. pennsylvanicum* is sometimes met with but is rarely found bearing old marks.

LIBRARY.

Only a small library of technical works of reference is maintained. Exchanges received for the State Library are transmitted thereto; exchanges made by authors (who may be attached to the Survey) of their private publications are not subject to official direction.

The extra bound volumes of reports of the Survey are printed only by order of the Legislature, a joint resolution of the Senate and Assembly being requisite. The editions published being thus dependent upon legislative action in each year range from 500 to 10,000 copies in accordance with the amount of popular interest in the work. The distribution to citizens is chiefly through the members of the Legislature, a moderate edition being given the Superintendent for his own use.

COST OF THE SURVEY.

The appropriations made by the State for the Adirondack Survey between 1872 and 1883 was $71,775, and for State Land Survey since the last date mentioned $15,000.* This, of course, does not include all the personal expenses of the Superintendent or his own personal investments in the Survey, or his unpaid salary, all of which, as heretofore explained, amounts to a large additional sum.

The printing, lithographing and engraving is done by the State Printer, under his regular legislative contract. This contract has been in recent times let to one bidder, estimating in gross for the entire amount of State printing. The cost of the printing of the reports and maps, etc., cannot, therefore, be estimated separately, the contractor being allowed to make no extra charge if the total amount of State printing be even greater than he had estimated.

PUBLICATIONS.

The publications of the Survey which have been issued are as follows:

First Annual Report, Albany, 1872, 1 vol. 8vo., 43 pages, one plate and two maps.

Second Annual Report, Albany, 1873, 1 vol. 8vo., 306 pages, 15 plates and five maps.

Third to Seventh Report, including condensed reports for the years 1874, 1875, 1876, 1877 and 1878. 1 vol. 8vo., 536 pages, 32 engraved plates and seven maps.

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* Report of Comptroller Chapin, Senate Document 135, of 1884.

Eighth to Twelfth Report (not as yet published), a considerable volume containing much valuable data.

Report on State Land Survey, for the year 1883. Albany, 1884, 1 vol. 8vo., of 343 pages; 13 photo engravings, with large folding lithograph plates and maps of the surveys made.

In addition to these works are numerous pamphlets on scientific subjects connected with the region under survey, which have been prepared and published at the private expense of the Superintendent.

The Iron Deposits of North-Eastern New York, by George Chahoon, of AuSable, N. Y; 1 pamphlet, 16 pages, 8vo.

Plants of the Summit of Mt. Marcy, by Prof. Charles H. Peck; 1 pamphlet, 12 pages, 8vo.

Lepidoptera of the Adirondack Region, from collections by W. W. Hill, Esq., by Prof. J. A. Lintner, 1 pamphlet, 26 pages, 8vo.

Winter Fauna of Mt. Marcy, by Verplanck Colvin, 1 pamphlet, 8vo., 12 pages.

Memoranda Relative to Adirondack Fishes, by Fred. Mather, Assistant to United States Fish Commission, 1 pamphlet, 56 pages, 8vo., and plate figuring new species.

Besides these there are pamphlet reports which are republished in the bound volumes to be hereafter issued.

None of these publications are placed on sale.

BENEFITS OF THE SURVEY.

The absolute necessity for these surveys is sufficiently understood by all land-owners and State officers who are brought into contact with the wild lands in the northern district of New York. Until these surveys began to be made under the present management and methods, the interior of the Adirondack region was a *terra incognita*, geographically as unknown as portions of Africa.

The publications of this Survey, which were begun in 1872, were intentionally made descriptive of the country explored, and are admitted to have had a powerful influence in developing all the resources of that portion of the State. It is admitted that millions of dollars have been brought into this part of the State through the instrumentality of these publications.

The measurements, the monuments locating boundaries, the stone bench-marks or height monuments, and the manuscript topographical maps are of incalculable value. These records and results of the

Survey are to be prepared for printing in condensed form, and it is hoped that the publication will be effected in such a manner as will render them accessible to all requiring them.

The recovery of disputed lands, the prevention of trespasses upon the valuable timbered territory of the State, the settling of boundaries in a manner to prevent endless legal disputes are among the practical results of these surveys, and have already more than repaid the cost of the work which has been done.

SCIENTIFIC RESULTS.

The scientific results are chiefly in the direction of geographical discovery.

The first discovery, location, and height measurement of Lake Tear-of-the-Clouds, the highest lake source of the Hudson, and the tracing cut to their sources of the unexplored Adirondack rivers are among these results.

The location of most of the rivers by precise topographical surveys for the first time, renders the mapping of those streams possible.

Upon the accurately determined water-sheds, thus found, the rainfall observations of the Survey which have been continued for years, afford accurate data for canal reservoir estimates and for other hydraulic investigations.

The thousands of geographical positions determined render the platting of lakes, mountains and land-lines possible.

The determination of the altitudes by precise leveling operations forms the groundwork of the contour mapping of the country, and determines the relative levels of lakes and reservoirs, and the gradients of mountain-passes which, with the topography, will show the engineering possibilities of the country.

The improvements in instruments, in new forms and methods in the higher classes, and, in the new forms of helio-signals, — improved rain and snow-gauges and other meteorological and scientific instruments, would require more space for description than the scope of the present paper will admit, and they have moreover been sufficiently explained in the previous reports of the Survey.

About one-half of the region has now been covered by the trigonometrical measurements, and the topographical sketching is well advanced. Upon the completion of the field-work, computations and drafting, it is anticipated that all the results will be published in permanent form.

MAP ENGRAVING.

The element most essential to the utilization of the results of the Survey is the perfection of the processes of engraving and printing of the maps which represent the results of the work.

By photo-lithographing fair results may be obtained, but to secure these results a special style of drafting must be followed, which is usually characterized by heavy lines foreign to the best engraved maps.

What is most necessary in the engraved maps is that they shall show the lines, boundaries, and distances, the streams, contours, and general topography at the exact distances, and exact positions recorded by the measurements of the Survey, shown upon the original maps.

Such engraving is a scientific work, and requires as much care and attention as the original drafting, and is a more toilsome and difficult work.

The usual process, followed by contractors in this State, is to engrave such maps as form a portion of the public printing upon stone, and to transfer impressions and print by lithographic processes.

The hurry with which all such public printing is carried on, and the limitations of the contract system, prevent the production of the best and most exact engraving under the existing system.

Special reports containing scientific data should be made the subject of special contracts, which should provide for the precise engraving of maps, etc., whether upon copper or otherwise, under the supervision of the engineers and surveyors who did the work.

The engraving should be done in the offices of the Survey, under the same methods of supervision, comparison and inspection which were followed in the original drafting.

The proof-reading of maps is extremely difficult, and the correction of an error in the engraving often well nigh impossible; and entirely so, if the error in engraving consist of an incorrect reproduction of the distances shown upon the original map.

Small defects upon copper-plate engravings can be remedied, but the best remedy consists in the avoidance of error by the allowance of means sufficient to secure the best engravers, by affording ample time to the engraver to insure care and precision, and by the execution of the work of map engraving in the offices of the Survey, under the constant inspection of the scientific experts of the office.

APPENDIX C.

MAPS READY FOR PUBLICATION.

As an example of the important nature of the data on hand in this office and ready for publication, the annexed map showing the location of the south-east corner of the county of Franklin is given.

The true location of this important county corner has been in doubt for very many years. It is usually located about two miles to the eastward of the Preston ponds and beyond the sources of Cold river, which is an affluent of the Raquette.

The corner was traced out and reference monuments preserving its location placed by survey parties, by and under the direction of the Superintendent of the Adirondack and State Land Surveys. The documentary evidence that shows where the original compass lines were run, consisting of original manuscript records, were found in the possession of the heirs and assigns of the patentees of the great MaComb's purchase. With the aid of this data, the old boundaries were identified at points in the settlements, far distant from the corner, and where tradition, old fence-lines locating the limits of property, granted under ancient deeds, proved that these exterior points on the lines were so established as to be unquestionable. From these points four transit and traverse lines were run back into the wilderness, connecting with the ancient boundaries that from time to time were found and restored, until the four new survey lines, separating and identifying the old lines of marked trees met at the corners of the Great Tracts, and at length proved where the original south-east corner of MaComb's purchase really is. The south-east corner of the county of Franklin was also consequently determined and the location of the north boundary of Totten and Crossfield's purchase at this point as well as the south-west corner of the Old Military Tract.

The location of the south line of the Old Military Tract is dependent upon old marked trees traced out and discovered by the Superintendent personally, and located by a transit line run from the shore of Lake Champlain at Westport across the mountains — the Giant of the Valley, the Wolf Jaws, the John's Brook range. Mt. Coldon, Little Mt. McMartin, Mt. McIntyre range, the Indian pass and Mt. Henderson to the corner in the upper Preston pond.

The location of the boundary line between the counties of Essex and Franklin from the Saranac lakes southward (being also the boundary between the MaComb's purchase of four millions of acres and the Old Military Tract Townships) was made by a transit line run under my direction by assistant M. Blake, who traced the ancient line of marked trees southward — with careful measurements, all angles and deflections being carefully determined with the transit; and, crossing all the mountain ridges between Mt. Seward and the Wallface mountain range found the county line to corner in the Preston ponds in complete conformity with the lines run by the other survey parties, in the place shown upon the map annexed.

The location of the north boundary of Totten and Crossfield's purchase west of this point was made by a survey party under assistant S. H. Snell, a transit traverse being run along the line of anciently marked trees by his transitman Mr. Rush, from the Raquette river eastward, up the valley of Cold river and over the shoulders of the mountains, the work resulting in this party also meeting at the same corner as that reached by the transit line run from Westport westward by the Superintendent.

Now came a most important and unexpected discovery. The surveyors measuring southward from the Saranac lakes found certain old township corners marked on the trees in the forests northward of the Preston ponds. Having the field-notes of the anciently measured distances along the bounds of these townships with them, they were interested in finding that the anciently recorded distances to the south-east corner of the township terminated in a lake. When their measurements had reached the same distance southward they arrived at the Middle Preston pond, and subsequent search, at right angles to the line westward, revealed an ancient line never before known to official records, but which was soon identified, by the marks upon the trees, to be the south boundary line of MaComb's purchase as marked by compas surveyors at the beginning of the present century*. Extending the west line of the Old Military Tract, still further southward, it was found to intersect with the north line of Totten and Crossfield's purchase in the Upper

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*The boundaries of the townships were marked upon the trees with the aid of the magnetic compass by order of the proprietors. The work was done under the direction of W. B. Wright, and a photo-lithograph of the map, transmitted by him to the proprietors in 1799, indicating the boundaries of township No. 27, shows at the south-east corner the unmistakable form of the Preston ponds with their outlet (known as Cold river). The locations of the adjacent mountains, also, to which we have measured, prove conclusively that the corners, as found and restored by the Adirondack Survey, and shown upon the large map annexed, are the true and only possible corners of these great patents. The photographic reproduction of Wright's map accompanies this report.

Preston pond, the corner being midway in the north part of the lake, as shown on the large map hereto annexed.

A comparison with other recent maps of this portion of the State will show the important nature of this discovery and emphasize the necessity for the publication of the rest of these maps and of all of the results of the surveys that have already been made

APPENDIX D.

MONUMENTS.

A great number of stone monuments have been set at important corners and along lines which have been searched out and restored with the greatest difficulty, after years of study among the old records and laborious measurements in the field.

The sudden cutting off of the means provided by the Legislature for the survey by the veto of the appropriation bill by the Governor has prevented the placing of the record tablets and the inscriptions relative to the Survey data upon a great number of these monuments.

It is indispensably necessary that means should be provided for the placing of the record tablets in the places cut for them in the stone of each of the monuments. For the sake of economy, in consequence of the smallness of the appropriations preventing the employment of skilled stonecutters to carve upon stone the necessary inscriptions describing the lines and corners monumented, a form of nickel plated copper bolt was devised by the Superintendent to bear the necessary inscription.

These bolts are practically indestructible. The heads of the bolts are flattened out in the forms of tablets, and upon these tablets are inscribed the necessary record and description of the corner. The nickel-plating of those which have been exposed to the storms and weather for over five years is as bright as when first placed.

The cutting upon stone of these inscriptions was found to be very expensive. The pay and transportation of the skilled stonecutters in the wilderness being more than could be afforded with the appropriations given. The cost of lettering in stone one monument, intelligibly, would in some cases amount to twenty five dollars, while the bright nickel-plated copper bolt can be procured at from two and a half to three dollars each.

This completion of the monumenting or marking of the monuments is absolutely necessary and will not be expensive. It is urgently hoped that the means will be provided for the work.

APPENDIX E.

TABLE OF ALTITUDES

IN THE

ADIRONDACK REGION.

The following table of altitudes has been prepared from the field measurements of the Adirondack Survey, and is inserted for the use of those who desire the data for investigations in connection with hydrology and forestry, and for the general improvement and development of the region. The list only includes well-known stations familiar to land-owners, travelers and tourists of the region. The great mass of measurements, with descriptions of the locations of the bench-marks or monuments with profiles, maps and other details of interest and importance, will be given in the records of the survey now in preparation for publication, one volume of which is proposed to be devoted to the results of leveling and the discussion of the observations by which the elevations have been obtained.

In the present tables, many elevations heretofore only based upon barometric observations, are now given from measurements made with level and rod from tide.

TABLE OF ALTITUDES IN THE ADIRONDACK REGION.

EXPLANATION.—*The method by which the Altitudes have been determined is explained by the letters of reference annexed:*

By Level and Rod **L**;
By Mountain Barometer B;
By Trigonometrical Leveling A or *Δ*;
By Detached Levels D.

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Abraham (Plains of)	Essex	**L**	1 621	feet.
Adirondack Village	Essex	**L**	1 789	"
Aiden Lair (Upper hotel)	Essex	**L**	1 628	"
Albany Lake	Hamilton	**L**	1 704	"
Alvord Lake	Hamilton	D	2 361	"
Ampersand Mountain	Franklin	B	3 432	"
Ampersand Pond	Franklin	B	2 078	"
Andrew Mountain	Essex	B	3 216	"
Artist's Falls (Gill brook)	Essex	**L**	1 637	"
Ausable Forks	Essex	D	550	"
Ausable Lake (lower)	Essex	**L**	1 959	"
Ausable Lake (upper)	Essex	**L**	1 993	"
Ausable River (East branch crossing near Beade's)	Essex	**L**	1 089	"
Ausable River (East branch at Shaw's bridge)	Essex	**L**	972	"
Ausable River (East branch at bridge at Keene village)	Essex	**L**	818	"
Ausable River (West branch at North Elba bridge)	Essex	**L**	1 676	"
Avalanche Lake	Essex	**L**	2 863	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued*).

NAME OF STATION.	County.	Method.	Altitude above the sea.
Baldface Mountain (No. 1)	Hamilton	B	3 903 feet.
Bald Mountain (Crown Point)	Essex	B	2 302 "
Bald Peak (Moriah)	Essex	B	2 120 "
Balm of Gilead (South Mountain)	Warren	B	1 953 "
Ballston Spa (R. R. tracks)	Saratoga	D	277 "
Barnum Pond (Gilman)	Hamilton	D	1 706 "
Bartlett's (Saranac Lakes)	Franklin	**L**	1 543 "
Bartlett Mountain (west shoulder on Gorge trail)	Essex	**L**	2 785 "
Bartlett Mountain	Essex	B	3 715 "
Basin Mountain	Essex	B	4 905 "
Beaches Bridge	Lewis	**L**	755 "
Beaches or Brandreth's Lake	Hamilton	**L**	1 890 "
Beaver Lake (No. 4)	Lewis	**L**	1 435 "
Beaver Meadow Pond (Chair-rock, Oswegatchie)	St. Lawrence	B	2 193 "
Beaver Meadows (Spruce Lake)	Hamilton	D	2 220 "
Beede (Old House), head of Keene valley	Essex	**L**	1 300 "
Beede (New House) " " "	Essex	**L**	1 360 "
Belden Pond	Hamilton	**L**	1 563 "
Bennett's Pond or Mirror Lake	Essex	**L**	1 859 "
Big Moose Lake	Herkimer & Ham.	B	1 787 "
Big Tupper's Lake	St.Lawrence&F'k'n	**L**	1 552 "
Black River (Lock 109)	Lewis	**L**	738 "
Black Creek (Watson road crossing)	Lewis	**L**	1 327 "
Black Pond (St. Regis)	Franklin	**L**	1 628 "

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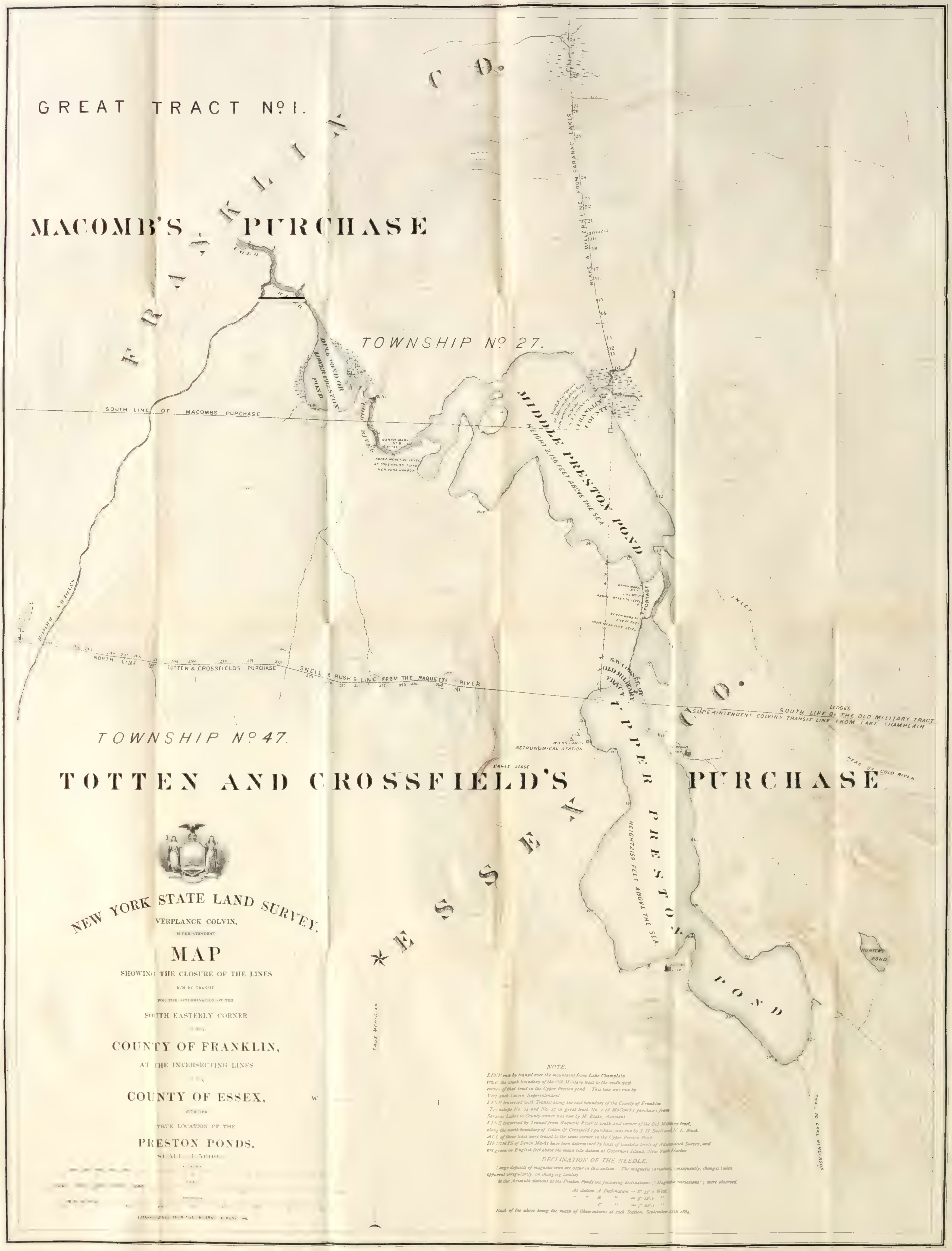

GREAT TRACT No. 1.
FRANKLIN CO.
MACOMB'S PURCHASE
TOWNSHIP No. 27.
COLD RIVER
DUCK POND OR LOWER PRESTON POND
SOUTH LINE OF MACOMBS PURCHASE
BENCH MARK No. 8
ABOVE MEAN TIDE LEVEL AT GOVERNORS ISLAND NEW YORK HARBOR
BLAKE & MILLERS LINE FROM SARANAC LAKES
South East corner of Macombs Purchase now generally claimed to be the S.E. CORNER OF FRANKLIN COUNTY
MIDDLE PRESTON POND
HEIGHT 2,156 FEET ABOVE THE SEA
BENCH MARK
ABOVE MEAN TIDE LEVEL
PORTAGE
INLET
S.W. CORNER OF OLD MILITARY TRACT
NORTH LINE OF TOTTEN & CROSSFIELDS PURCHASE
SNELL & RUSH'S LINE FROM THE RAQUETTE RIVER.
LEDGES
SOUTH LINE OF THE OLD MILITARY TRACT
SUPERINTENDENT COLVINS TRANSIT LINE FROM LAKE CHAMPLAIN
TOWNSHIP No. 47.
ASTRONOMICAL STATION
EAGLE LEDGE
TOTTEN AND CROSSFIELD'S PURCHASE
HEAD OF COLD RIVER
ESSEX CO.
UPPER PRESTON POND
HEIGHT 2159 FEET ABOVE THE SEA.
HUNTERS POND
TRUE MERIDIAN
TRAIL TO LAKE HENDERSON
W

NEW YORK STATE LAND SURVEY.
VERPLANCK COLVIN,
SUPERINTENDENT

MAP

SHOWING THE CLOSURE OF THE LINES
RUN BY TRANSIT
FOR THE DETERMINATION OF THE
SOUTH EASTERLY CORNER
OF THE
COUNTY OF FRANKLIN,
AT THE INTERSECTING LINES
OF THE
COUNTY OF ESSEX,
WITH THE
TRUE LOCATION OF THE
PRESTON PONDS.
SCALE 1:5000

LITHOGRAPHED FROM THE [illegible] ALBANY, N.Y.

NOTE.

LINE run by transit over the mountains from Lake Champlain traces the south boundary of the Old Military tract to the south-west corner of that tract in the Upper Preston pond. This line was run by Verplanck Colvin Superintendent.

LINE traversed with Transit along the east boundary of the County of Franklin (Townships No. 24 and No. 27 in great tract No. 1 of MaComb's purchase) from Saranac Lakes to County corner was run by M. Blake, Assistant.

LINE traversed by Transit from Raquette River to south-west corner of the Old Military tract, along the north boundary of Totten & Crossfield's purchase, was run by S. H. Snell and N. L. Rush.

ALL of these lines were traced to the same corner in the Upper Preston Pond.

HEIGHTS of Bench Marks have been determined by lines of Geodetic levels of Adirondack Survey, and are given in English feet above the mean tide datum at Governors Island, New York Harbor.

DECLINATION OF THE NEEDLE.

Large deposits of magnetic iron ore occur in this section. The magnetic variation, consequently, changes (with apparent irregularity) on changing locality.

At the Azimuth stations at the Preston Ponds the following declinations ("Magnetic variations") were observed.

At station A Declination = 8° 33'.1 West.
" " B " = 9° 28'.6 "
C " = 7° 02'.3 "

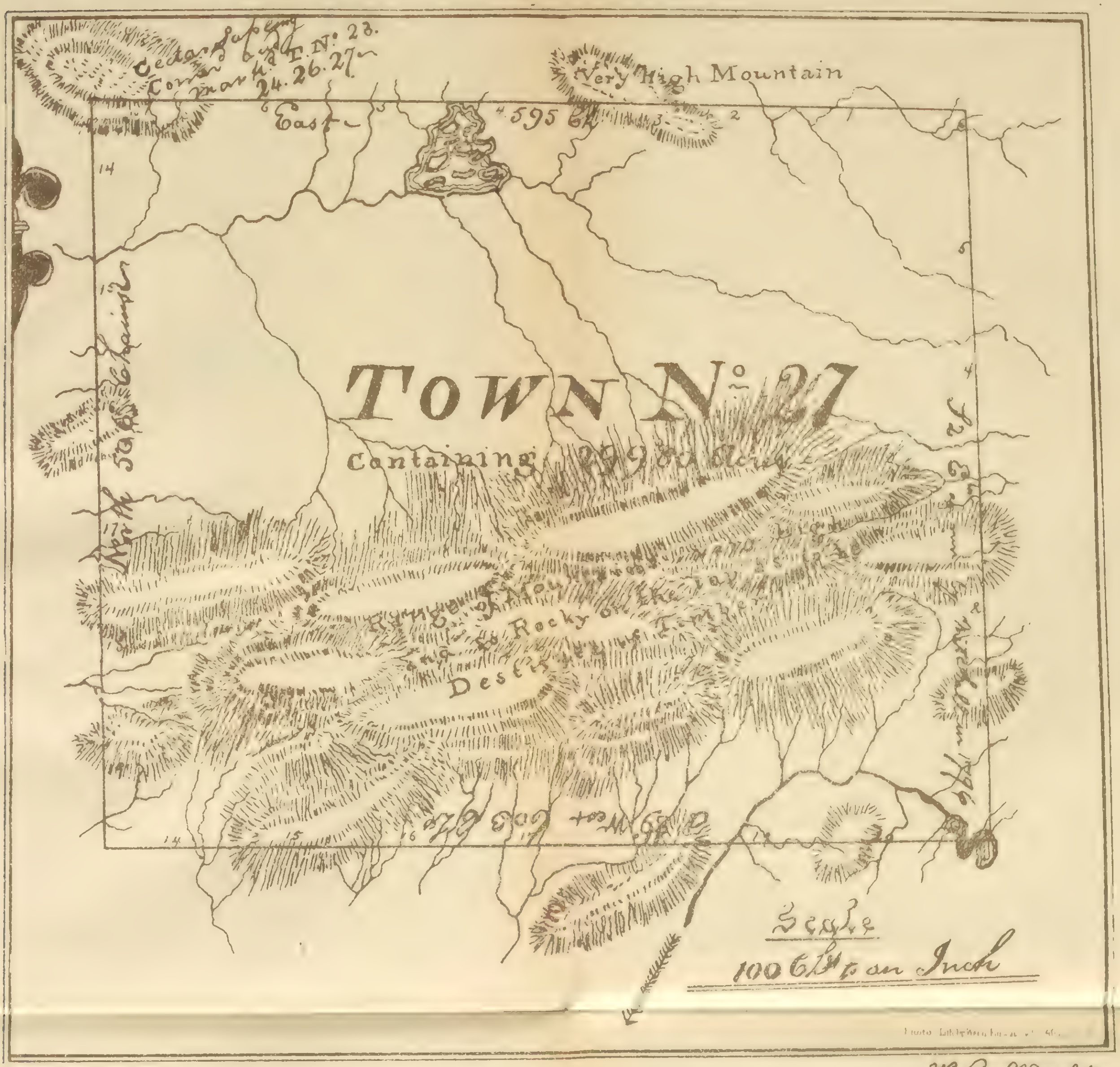
Each of the above being the mean of Observations at each Station, September 22th 1884.

[illegible]

MAP No. 2.

N. Y. STATE LAND SURVEY. ANNUAL REPORT; 1886.

(PHOTO-LITHOGRAPHED FROM ANCIENT MAP.)



A.D. 1799. W. B. Wright.

A MAP
of
Township No. 27,
IN
GREAT LOT No 1 OF
MACOMB'S PURCHASE.

Blue Mountain	Hamilton	B	3 762	feet.
Blue Mountain Lake	Hamilton	**L**	1 800	"
Bog River (junction with Tupper Lake stream)	St. Lawrence	**L**	1 578	"
Bog River Falls (head)	St. Lawrence	**L**	1 575	"
Bog River Falls (foot)	St. Lawrence	**L**	1 552	"
Bog Lake	Hamilton	B	1 755	"
Booneville	Oneida	D	1 124	"
Boot Bay Mountain	Franklin	Δ	2 531	"
Boot Bay Mountain (North Peak)	Franklin	Δ	2 400	"
Boquet Mountain	Essex	Approx.	1 500	"
Boquet River (Upland valley)	Essex	B	2 425	"
Boquet River (E'town)	Essex	**L**	543	"
Boquet River (Jackson fork bridge, 1 mile from E'town)	Essex	**L**	759	"
Boreas Mountain	Essex	D	3 726	"
Boreas Pass	Essex	**L**	2 019	"
Boreas Pond	Essex	**L**	1 973	"
Brewster (Triangulation station)	Essex	**L**	1 981	"
Brown Place (John Brown's Grave)	Essex	**L**	1 857	"
Bullwagga Mountain	Essex	D	1 260	"
Burnt Mountain (No. 1)	Hamilton	B	2 121	"
Cadyville (point near)	Clinton	D	734	"
Calamity Pond	Essex	**L**	2 679	"
Camel's Hump Mt.	Essex	B	3 548	"
Camp Pork	Essex	**L**	2 288	"
Camus Pond	Essex	B	1 991	"
Canada Lake (Little West)	Hamilton	D	2 323	"
Canada Lake (Great West)	Hamilton	D	2 348	"
Caraboo Pass	Essex	B	3 662	"
Carthage	Jefferson	D	728	"
Catamount (or Thi-Pac Mountain)	Clinton	Δ	3 128	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued*).

NAME OF STATION.	County.	Method.	Altitude above the Sea.	
Catlin Lake	Hamilton	**L**	1 600	feet.
Cat Mountain (Oswegatchie)	St. Lawrence	Approx.	2 336	"
Cedar Lakes	Hamilton	B	2 529	"
Cedar River Falls	Hamilton	B	2 135	"
Cedar River Settlement	Hamilton	B	1 706	"
Cedar River (Mouth)	Essex	D	1 454	"
Chagrin Pond	Franklin	D	1 640	"
Chain Lake (Outlet)	Hamilton	D	1 531	"
Chain Ponds (Bog River)	St. Lawrence	B	1 736	"
Champlain, Lake (mean level for years, 18 to 18)		**L**	96 561	"
Chapel Pond	Essex	**L**	1 602	"
Charley Pond (Beaver River)	Hamilton	**L**	1 777	"
Chazy Lake (station of 1878)	Clinton	A	1 500	"
Chubb River (Saranac road crossing)	Essex	**L**	1 728	"
Chubb River (at White's saw mill, North Elba)	Essex	**L**	1 714	"
Church Pond (St. Regis)	Franklin	**L**	1 655	"
Clear Lake (Red Horse Chain)	Herkimer	B	2 005	"
Clear Pond (North Elba)	Essex	**L**	2 166	"
Clear Pond (Long Lake)	Hamilton	B	1 691	"
Clear Pond, Big (Upper Saranac waters)	Franklin	**L**	1 615	"
Clear Pond (near Elk Lake)	Essex	**L**	1 911	"
Cliff Mountain Pass	Essex	B	3 355	"
Cobble Hill	Essex	B	1 936	"
Colby Pond	Franklin	**L**	1 559	"
Colden Lake	Essex	**L**	2 764	"

Colden (Mount Colden)	Essex	B	4 753	feet.
Colvin Lake	St. Lawrence	B	1 990	"
Colvin (Mount Colvin)	Essex	B	4 142	"
Corey's (Indian carry) plateau	Franklin	L	1 618	"
Corey Pond	Franklin	L	1 589	"
Cow Horn Pond	St. Lawrence	B	1 772	"
Crains Mountain	Warren	L	3 254	"
Cranberry Lake (Great)	St. Lawrence	B	1 540	"
Crooked Lake	Herkimer	B	2 022	"
Crystal Creek (crossing of road to No. 4)	Lewis	L	939	"
Crystal Lake (Oswegatchie)	St. Lawrence	B	1 663	"
Crystal Lake	Lewis	L	1 259	"
De Bar Mountain	Franklin	A	3 011	"
Deer Pond (Beach's Lake)	Hamilton	L	1 993	"
Devil's Ear Mountain	Hamilton	B	3 903	"
Dibble's (Keene Valley)	Essex	L	1 033	"
Discovery Mountain	Essex	B	1 582	"
Discovery (Little Mount)	Essex	B	1 375	"
Dix (Mount)	Essex	B	4 916	"
Dyke Falls (crossing)	Essex	B	2 788	"
Eagle Lake (Blue Mountain chain)	Hamilton	L	1 800	"
East Moriah	Essex	D	790	"
East Intersection of Keene Mountain and Edmunds Ponds roads	Essex	L	981	"
Echo Lake	Hamilton	D	1 714	"
Edmunds Pond (Upper)	Essex	L	2 038	"
Edmunds Pond (Lower)	Essex	L	2 032	"
Eighth Lake (Fulton chain)	Hamilton	D	1 803	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued*).

NAME OF STATION.	County.	Method.	Altitude above the Sea.	
Elba (North Elba)	Essex	L	1 685	feet.
Elizabethtown (Lower flats)	Essex	L	552	"
Elizabethtown (Upper plateau)	Essex	L	598	"
Elizabethtown (1st bridge over Jackson, fork of Boquet river)	Essex	L	759	"
Elizabethtown (Red School house, 2 miles west from E'town)	Essex	L	965	"
Elk Lake	Essex	L	1 986	"
Elk Lake Pass (Railroad notch to Ausable)	Essex	L	2 650	"
Evergreen Pond	Hamilton	B	1 980	"
Fairy Ladders Falls (foot of)	Essex	B	3 111	"
Falls (Artist's Falls)	Essex	L	1 637	"
Falls, Bog River (Head)	St. Lawrence	L	1 575	"
Falls, Bog River (Foot)	St. Lawrence	L	1 552	"
Falls, Tupper's Lake Stream (Head)	Hamilton	L	1 604	"
Falls, Tupper's Lake Stream (Foot)	Hamilton	L	1 594	"
Falls between Round Pond and Lower Saranac (Head of)	Franklin	L	1 541	"
Falls between Round Pond and Lower Saranac (Foot of)	Franklin	L	1 539	"
Falls, Glen's (Feeder Dam) top of coping	Warren	L	290.252	"
Fenton's No. 4 (Beaver River)	Lewis	L	1 571	"
Fifth Lake (Fulton chain)	Hamilton	D	1 691	"
First Lake (Fulton chain)	Herkimer	D	1 684	"
Fishing Brook	Hamilton	L	1 569	"
Flatts, Juniper	Essex	L	698	"
Flatts, Keene (B. M. 52.)	Essex	L	1 033	"

Forge (Old Forge Moose river)	Herkimer	D	1 684	feet.
Forked Lake	Hamilton	**L**	1 753	"
Forks (Ausable River)	Essex	D	550	"
Forks Sacondaga River (Wellstown)	Hamilton	D	902	"
Fourth Lake (Fulton chain)	Ham. & Herkimer,	D	1 687	"
Fourth Pond (Bog River)	St. Lawrence	B	1 756	"
Francis Lake (Beaver River)	Lewis	**L**	1 457	"
Freeman's Home (School House)	Essex	**L**	2 086	"
Gennet's (Peaseleville)	Clinton	B	1 821	"
George (Lake George)	Warren, etc	**L**	319	"
Giant of the Valley Mountain	Essex	B	4 530	"
Giants Basin or Wash Bowl Pond	Essex	B	2 253	"
Gill Brook (crossing at road to Ponds)	Essex	**L**	1 465	"
Gill Brook flume	Essex	**L**	1 561	"
Glens Falls (Feeder Dam) top of coping	Warren	**L**	290·252	"
Gore Mountain	Warren	B	3 539	"
Gorge (Panther Gorge)	Essex	**L**	3 353	"
Gothic Mountain	Essex	B	4 744	"
Grass Pond	St. Lawrence	B	1 750	"
Grass River (Ford)	St. Lawrence	B	1 452	"
Graves Mountain	St. Lawrence	B	2 345	"
Graves Pond	St. Lawrence	B	1 795	"
Gray Peak	Essex	**L**	4 902	"
Great Plains	St. Lawrence	B	1 637	"
Gull Lake	Herkimer	B	2 018	"
Gull Pond (Little)	Herkimer	B	1 907	"
Hadley (R. R. track at)	Saratoga	**L**	636	"
Harrington Pond	Hamilton	B	1 779	"
Harrietstown	Franklin	**L**	1 541	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Harris Lake	Essex	**L**	1 556	feet.
Haystack Mountain	Essex	**L**	4 918	"
Haystack Mountain (Little)	Essex	B	4 766	"
Henderson Lake	Essex	**L**	1 814	"
Herrick's Creek	Essex	**L**	1 284	"
Hitchings Pond	St. Lawrence	B	1 733	"
Hoffman (Mount Hoffman)	Essex	D	3 727	"
Holmes Hill	Hamilton	B	2 121	"
Hope Centre	Hamilton	D	763	"
Hopkins Peak	Essex	B	3 136	"
Horse-shoe Pond	St. Lawrence	B	1 712	"
Hudson River (bridge Tahawus) station near.	Essex	**L**	1 717	"
Hump (Mt. Marcy)	Essex	**L**	4 998	"
Hunter's Pass	Essex	B	3 247	"
Huntsville	Hamilton	D	697	"
Hurricane Mountain	Essex	B	3 763	"
Indian Face (Ausable Pond)	Essex	Approx.	2 536	"
Indian Lake	Hamilton	B	1 705	"
Indian Pass (centre of)	Essex	**L**	2 884	"
Indian Pass (top of precipice of Wallface Mt.)	Essex	B	3 870	"
Intersection of the Keene Mountain and Edmund's Pond road (east).	Essex	**L**	981	"
Intersection of the Keene Mountain and Edmund's Pond road (west).	Essex	**L**	2 027	"
Iron Works, Upper (Newcomb) near furnace	Essex	**L**	1 789	"

Jackson's (Hotel Cedar river), station near	Hamilton	L	1 686	feet.
Jessup's Landing (Hudson river)	Saratoga	D	562	"
Jessup's River (crossing State road)	Hamilton	B	1 763	"
Jessup's River (outlet of Otter Lake)	Hamilton	D	1 892	"
Jock's Lake	Herkimer	D	2 187	"
John's Brook (road crossing)	Essex	L	1 010	"
John Brown's Place (John Brown's Grave)	Essex	L	1 857	"
Junction of Cold Slough and Marcy Trails	Essex	L	2 028	"
Junction of State road and Sweeny carry	Franklin	L	1 659	"
Keene Flatts (Dibble's)	Essex	L	1 033	"
Keene Flatts (Beede's Old House)	Essex	L	1 300	"
Keene Flatts (Beede's New House)	Essex	L	1 360	"
Keene Flatts (Phelps')	Essex	L	1 053	"
Keene Flatts (Holt's)	Essex	L	1 000	"
Keene Flatts (Washburn's)	Essex	L	1 040	"
Keene Flatts (Tredo's)	Essex	L	1 042	"
Keene Flatts (Shaw bridge)	Essex	L	982	"
Keene Flatts (Foot)	Essex	L	995	"
Keene Flatts (Head)	Essex	L	1 359	"
Keene Village	Essex	L	854	"
Knoll Brook (crossing of road)	Essex	L	997	"
Lake Champlain (mean level for years, 18 to 18)		L	96·561	"
Lake Clear	Herkimer	D	2 187	"
Lake Colvin	St. Lawrence	B	1 990	"
Lake Francis	Lewis	L	1 457	"
Lake George (Level observed)	Warren, etc	L	319	"
Lake Henderson	Essex	L	1 814	"
Lake Placid	Essex	L	1 863	"
Lake Pleasant	Hamilton	D	1 706	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Lake Reservoir (Woodhull reservoir)	Herkimer	D	1 599	feet.
Lake Sanford	Essex	**L**	1 723	"
Lake Tear-of-the-Clouds	Essex	**L**	4 321	"
Lake Tear Notch (Summit of)	Essex	**L**	4 355	"
Lawrence (North Lawrence)	St. Lawrence	D	313	"
Lawrenceville	St. Lawrence	D	423	"
Lewey Lake	Hamilton	B	1 738	"
Lewey Mountain (See Snowy)	Hamilton	B	3 903	"
Lilly Pad Pond	Hamilton	**L**	1 597	"
Little Moose Lake (Fulton Chain)	Herkimer	D	1 772	"
Little Tuppers Lake	Hamilton	**L**	1 728	"
Long Lake	Hamilton	**L**	1 630	"
Long Pond (Oregon)	Hamilton	B	1 960	"
Long Pond Mountain	Hamilton	B	2 268	"
Long Pond (Catlin Waters)	Hamilton	D	1 600	"
Long Tom Mountain	St. Lawrence	B	2 604	"
Loon Lake (Beaver River)	Herkimer	**L**	1 683	"
Lost Lake (Oswegatchie)	St. Lawrence	B	1 761	"
Lower Saranac	Franklin	**L**	1 539	"
Lower St. Regis	Franklin	**L**	1 623	"
Lower Spectacle Pond	Franklin	**L**	1 643	"
Lowville (Railroad track)	Lewis	**L**	779	"
Lyon Mountain (mean of two Months Ob's)	Clinton	B	3 809	"
Lyon's Falls (R. R. Station)	Lewis	D	840	"
Lyons (North Elba P. O.)	Essex	**L**	1 820	"

Luzerne Lake	Warren	**L**	625	feet.
Macomb, Mount	Essex	B	4 371	"
Mac Donough, Mount	Essex			
Mac Intyre (brook crossing trail Indian Pass)	Essex	B	2 173	"
Mac Kenzie Pond Stream (road crossing)	Essex	**L**	1 538	"
Mac Kenzie Pond Mountain (or Mt. St. Armand)	Essex	**L**	3 789	"
Malone City	Franklin	D	609	"
Marcy (Mt. Marcy)	Essex	**L**	5 344	"
Marcy Brook (Haystack branch crossing at Panther gorge)	Essex	**L**	3 340	"
Marcy Brook (Panther gorge crossing)	Essex	**L**	3 349	"
Marcy (Hump on)	Essex	**L**	4 998	"
Marcy (Timber line on)	Essex	**L**	4 901	"
Marcy Station (U. & B. R. R. R)	Oneida	D	582	"
Martin's, Lower Saranac Lake	Franklin	**L**	1 548	"
Mason Lake	Hamilton	B	1 860	"
McBride Place (Raquette River)	Franklin	**L**	1 573	"
Middle Saranac Lake or Round Pond	Franklin	**L**	1 542	"
Mineville	Essex	B	1 374	"
Minnie Pond	Hamilton	B	2 131	"
Mirror Lake	Essex	**L**	1 859	"
Mirror Lake Stream (road crossing)	Essex	**L**	1 845	"
Moody (Triangulation Station)	Franklin	**L**	1 623	"
Moose Lake, Big (Moose River)	Ham. & Herkimer,	B	1 787	"
Moose Lake, Little (Moose River)	Herkimer	D	1 772	"
Moose Lake (Military road)	Hamilton	B	2 239	"
Moose Mountain (Ampersand)	Franklin	B	3 432	"
Moss Lake	Essex	B	4 312	"
Mouth of Sacondaga River (station near)	Saratoga	**L**	560	"
Mt. Clinton	Essex	B	4 937	"
Mt. Colden	Essex	B	4 753	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.
Mt. Colvin	Essex	B	4 142 feet.
Mt. Discovery	Essex	B	1 582 "
Mt. Discovery, Little	Essex	B	1 375 "
Mt. Dix	Essex	B	4 916 "
Mt. Haystack	Essex	**L**	4 918·626 "
Mt. Hoffman	Essex	Approx.	3 727 "
Mt. Hurricane	Essex	B	3 763 "
Mt. MacIntyre range (summit of or Mt. Algonquin)	Essex	**L**	5 112·730 "
Mt. Marcy (Tahawus)	Essex	**L**	5 344·243 "
Mt. Maxham	Warren	B	2 510 "
Mt. Redfield	Essex	B	4 688 "
Mt. Santanoni	Essex	B	4 644 "
Mt. Seward	Franklin	B	4 384 "
Mt. Seymour	Franklin	B	3 928 "
Mt. Skylight	Essex	**L**	4 889·626 "
Mt. St. Louis	Herkimer	B	2 295 "
Mud Lake (Bog River)	St.Lawrence&Ham.	B	1 745 "
Mud Lake (Woodhull Reservoir)	Lewis	D	1 799 "
Mud Pond (Blue Mt.)	Hamilton	B	1 968 "
Newcomb Lake	Essex	D	1 698 "
Niger Lake (Red Horse chain)	Herkimer	B	1 842 "
Nipple Top Mt	Essex	B	4 684 "
North Branch (reservoir of Black River)	Herkimer	D	1 821 "
North Elba Bridge	Essex	**L**	1 686·826 "

North River at Newcomb Bridge	Essex	**L**	1 556	feet.
North River Mountain	Essex	B	3 758	"
Northville (Tannery)	Fulton	D	732	"
Norway Mountain	Clinton	B	2 666	"
Ogdensburgh	St. Lawrence	D	242	"
Old Forge (Moose River)	Herkimer	D	1 684	"
Ouluska Pass	Franklin	B	3 086	"
One Acre Pond (Paul Smith's)	Franklin	**L**	1 644	"
Ord Falls	Essex	D	1 551	"
Osgood Pond	Franklin	**L**	1 659	"
Otter Lake (Arietta)	Hamilton	D	2 236	"
Otter Pond	St. Lawrence	B	1 959	"
Owls Head Mountain	Hamilton	B	2 825	"
Panther Gorge	Essex	**L**	3 353	"
Partridge Hill (Summit)	Essex	**L**	1 664	"
Partridge Hill (Foot)	Essex	**L**	995	"
Passengers (Lock 109, Black River Canal)	Lewis	**L**	771	"
Paul Smith's Reservoir Pond	Franklin	**L**	1 646	"
Petrie's Corners	Lewis	**L**	971	"
Phelps' KeeneValley	Essex	**L**	1 053	"
Piseco Lake	Hamilton	D	1 648	"
Pitch-off Pass	Essex	**L**	1 709	"
Placid (Lake Placid)	Essex	**L**	1 863	"
Pleasant (Lake Pleasant)	Hamilton	D	1 706	"
Poke-a-Moonshine Mt	Essex	B	2 171	"
Potash Kettle Mt	Warren	D	1 735	"
Pork Camp (Marcy Trail)	Essex	**L**	2 288	"
Port Leyden (R. R. Station)	Lewis	D	892	"
Pottersville	Warren	**L**	832	"
Preston Pond (Upper)	Essex	**L**	2 161	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION—(*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Prospect House (Upper Saranac Lake)	Franklin	**L**	1 592	feet.
Prospect Hill (Keene)	Essex	**L**	1 142	“
Puffer Pond	Hamilton	B	2 229	“
Ragged Mountain (Summit)	Essex	B	4 163	“
Rand Hill	Clinton	Δ & B	1 307	“
Raquette Lake	Hamilton	**L**	1 774	“
Raquette River (Settlement at School House)	Franklin	**L**	1 612	“
Raven (Raven Hill)	Essex	B	1 982	“
Ray Brook, Little (at road crossing)	Essex	**L**	1 573	“
Redfield (Mount Redfield)	Essex	B	4 688	“
Red Horse chain (see Salmon Lake)	Herkimer	B	1 756	“
Remsen	Oneida	D	1 181	“
Rich Lake (Catlin chain)	Essex	**L**	1 568	“
Rift Hill (Lake Pleasant)	Hamilton	B	2 141	“
Roaring Brook (at B. M. No. 55)	Essex	**L**	1 121	“
Rock Lake (of Rock river)	Hamilton	D	1 765	“
Rock River Dam (34th Dam) station near	Hamilton	**L**	1 779	“
Roots (Schroon River) W. T. Hotel, now Hall's	Essex	**L**	870	“
Roses Pond (Beaver River)	Hamilton	Approx.	1 847	“
Round Lake (of Big Brook)	Hamilton	D	1 707	“
Round Lake (Middle Saranac)	Franklin	**L**	1 542	“
Round Mountain Notch (Keene)	Essex	B	2 546	“
Round Pond (of 13th)	Hamilton	D	1 880	“
Round Pond (Catlin chain)	Hamilton	D	1 635	“

Round Pond (of Little Tuppers Lake)	Hamilton	**L**	1 728	feet.
Rugged Pond	Franklin	D	1 594	"
Rustic Lodge (Whiteface Mt.)	Essex	B	4 116	"
Sacondaga River (Mouth of) station near	Saratoga	D	560	"
Saddle Mountain	Essex	B	4 536	"
Salmon Lake (Red Horse chain)	Herkimer	B	1 756	"
Salmon Pond (of Long Lake)	Hamilton	D	2 080	"
Sanford (Lake Sanford)	Essex	**L**	1 723	"
Sand Lake (of Woodhull reservoir)	Herkimer	D	1 793	"
Santanoni Camp	Essex	B	3 044	"
Santanoni Mountain	Essex	B	4 644	"
Saranac Lake (Upper)	Franklin	**L**	1 577	"
Saranac Lake (Lower)	Franklin	**L**	1 539	"
Saranac Lake (Middle)	Franklin	**L**	1 542	"
Saranac River (above dam at Harrietstown)	Franklin	**L**	1 533	"
Saratoga (R. R. Tracks)	Saratoga	D	306	"
Schroon Lake	Warren	**L**	806	"
Scott's Pond (No. 1)	Essex	B	3 091	"
Scott's Pond (No. 2)	Essex	B	3 168	"
Second Lake (Bog River)	St. Lawrence	B	1 736	"
Second Lake (Fulton chain)	Herkimer	D	1 684	"
Seventh Lake (Fulton chain)	Hamilton	D	1 762	"
Seward (Mount Seward)	Franklin	B	4 384	"
Seymour (Mount Seymour)	Franklin	B	3 928	"
Sharps (Lowville and No. 4 road)	Lewis	**L**	971	"
Silver Lake Mountain	St. Lawrence	B	2 604	"
Silver Lake	St. Lawrence	B	1 983	"
Sixth Lake (Fulton chain)	Hamilton	D	1 760	"
Skylight (Mount Skylight)	Essex	**L**	4 889	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Smith's Lake	Hamilton	**L**	1 725	feet.
Smith's Ledge	Hamilton	B	2 273	"
Snowy Mountain	Hamilton	B	3 903	"
South Branch Beaver River (Carthage road crossing)	Herkimer	**L**	1 669	"
South McIntyre Mt. or Mt. Iroquois	Essex	B	4 937	"
South Mountain (Balm of Gilead Mt.)	Warren	B	1 953	"
South Pond	Hamilton	B	1 769	"
Speculator Mountain	Hamilton	B	3 041	"
Spectacle Pond (Upper)	Franklin	**L**	1 643	"
Spectacle Pond (Lower)	Franklin	**L**	1 643	"
Spitfire Pond	Franklin	**L**	1 623	"
Spring on Ampersand Mt	Franklin	B	2 966	"
Spring Pond (Bog River)	St. Lawrence	B	1 809	"
Spring on Whiteface Mt., Lake Placid side	Essex	**L**	2 817	"
Spruce Lake	Hamilton	D	2 358	"
Stevens Hotel (Lake Placid)	Essex	**L**	1 967	"
Stillwater Pond (Beaver River)	Herkimer	**L**	1 656	"
Stittsville	Oneida	D	556	"
Stockholm (West Stockholm) up. St. Regis	St. Lawrence	D	433	"
Stockholm Station	St. Lawrence	D	286	"
Stony Creek Pond (High-water)	Franklin	**L**	1 553	"
Stony Pond (Big brook west of Long Lake)	Hamilton	**L**	1 721	"
Steuben Corners	Oneida	D	1 275	"
St. Louis (Mt. St. Louis)	Herkimer	B	2 295	"
St. Regis Mountain	Franklin	**L**	2 888	"

St. Regis Lake (Upper)	Franklin	**L**	1 623·195	feet.
St. Regis Lake (Lower) Paul Smith's	Franklin	**L**	1 623·162	"
St. Regis River (at Key's Mill)	Franklin	**L**	1 623·361	"
Summit on road between the East and West branch of the Au Sable River	Essex	**L**	2 207·992	"
Summit on road between the Saranac River at Harrietstown and the lower Saranac	Franklin	**L**	1 634·392	"
Summit between Blue Mt. Lake and Rock River	Hamilton	D	1 820	"
Summit between Spruce Lake and West Canada Creek	Hamilton	D	2 409	"
Summit between Piseco Lake and Morehouse	Hamilton	D	1 722	"
Summit Water Pond (see Lake Tear,)	Essex	**L**	4 321·958	"
Tahawus (Mt. Marcy)	Essex	**L**	5 344·243	"
Tahawus Village	Essex	D	1 810	"
Taylor Pond	Clinton	D	1 659	"
Tear-of-the-Clouds (Lake)	Essex	**L**	4 321·958	"
Terrel's Lake (Blue Mt.)	Hamilton	D	1 900	"
Thayer's Lake	Hamilton	**L**	1 792·832	"
Theresa Station (U. & B. R. R. R.)	Jefferson	D	330·500	"
Third Pond (Bog River)	St. Lawrence	B	1 737	"
Thirteenth Pond	Hamilton	B	1 953	"
Three Pound Pond	St. Lawrence	B	1 802	"
Totten and Crossfield line at Carthage road	Herkimer	**L**	1 714·407	"
Totten and Crossfield line at Keene Valley	Essex	**L**	1 120·294	"
Township line No. 22	Franklin	**L**	1 574·751	"
Transparent or Jock's Lake	Herkimer	D	2 187	"
Trenton (Station on Railroad)	Oneida	D	836	"
Triangulation Station (Brewster)	Essex	**L**	1 981·184	"
Triangulation Station (Moody) on county line	Essex & Franklin	**L**	1 623·126	"
Tuppers Lake (Big) — Reservoir	Hamilton&St. Law.	**L**	1 552	"
Tuppers Lake (Little)	Hamilton	**L**	1 728	"
Upland Valley (Boquet River crossing)	Essex	B	2 425	"
Upper Au Sable Lake	Essex	**L**	1 993.381	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method	Altitude above the sea.
Upper Edmunds Pond	Essex	**L**	2 038·543 feet.
Upper Saranac Lake	Franklin	**L**	1 577·889 "
Upper St. Regis Lake	Franklin	**L**	1 623·195 "
Utawana Lake	Hamilton	**L**	1 800·924 "
Utica City (R. R. Station)	Oneida	D	405 "
Wallface Mountain (Top)	Essex	B	3 893 "
Wallface Mountain (Foot)	Essex	B	2 367 "
Wallface Precipice (Greatest height)	Essex	B	1 355 "
Wallface Mountain Pond	Essex		
Wardwell's Pond	Herkimer	**L**	1 656·694 "
Watson P. O	Lewis	**L**	763·198 "
Wellstown	Hamilton	D	850 "
Westport (Academy at B. M. 3)	Essex	**L**	165·979 "
West intersection of Keene Mountain and Edmunds Ponds roads	Essex	**L**	2 027·838 "
Whiteface Brook (1st crossing on trail)	Essex	**L**	1 959·996 "
Whiteface Brook (2nd crossing on trail)	Essex	**L**	2 023·965 "
Whiteface Mountain	Essex	**L**	4 871·655 "
White's Mill Pond (North Elba)	Essex	**L**	1 728·114 "
White Pond (Oswegatchie)	Herkimer	B	1 687 "
Wilmington Village	Essex	B	1 058 "
Wood Hill (Elizabethtown)	Essex	B	1 151 "
Woodhull Reservoir	Herkimer	D	1 854 "
Wyman (Lake W.)	Herkimer	D	2 187 "

APPENDIX F.

CORRESPONDENCE

OF

COMPTROLLER

RELATING TO

STATE LANDS.

The following letters contain corrections to the list of State lands published in the earlier reports of this Survey, and should be examined by those who may have occasion to refer to the list:

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *July* 11*th*, 1883.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The lands described as

"Clinton County,
Duerville Patent,
Lot 42 . . . . 250ª and
Refugee Tract.
420ª Lots.
Lot 194, E. ½ . . . . 210ª,"

are no longer State property, and should therefore be struck from your list of State lands in said county.

Respectfully yours,

IRA DAVENPORT,
Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *July 20th*, 1883.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Clinton County,
Pion Patent,
Lot 5, b'd N. by Lewis, E. by Turner, and S. lot line...... 25^a^,"

is no longer State property, and should therefore be struck from your list of State lands in said county.

Respectfully yours,
IRA DAVENPORT,
Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *September* 1*st*, 1883.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Clinton County,
Pion Patent,
Lot 4, N. E. ¼, except 27^a, N. E. cor. thereof .... 98^a,"

is no longer State property, and should, therefore, be struck from your list of State lands in said county.

Respectfully yours,
SIDNEY W. PARK,
Chief Tax Clerk.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *December* 31*st*, 1883.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — You are hereby notified that the lands described as

"Essex County,
Old Military Tract,
Township 11,
Lot 217 .... 200^a,"

is no longer State property, and should, therefore, be struck from your list of State lands.

By order of the Comptroller,
SIDNEY W. PARK,
Chief Tax Clerk.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *January 9th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — You are hereby notified that the lands described as

"Hamilton County,
Totten and Crossfield's Purchase,
Township 37,
Lots 13, 33, 71 to 82, inc., 95 to 99 inc., 101 to 106, inc., and 112 and 113,"

are no longer State property, and should, therefore, be struck from your list of State lands.

Respectfully yours,
ALFRED C. CHAPIN,
Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *January 18th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — You are hereby notified that the State no longer holds the 1853 tax-sale title to the land described as

"Clinton County,
Old Military Tract,
Township 4,
Lot. 15, E. $\frac{2}{3}$ of S. $\frac{1}{2}$.................................... $213\frac{1}{3}^a$,"

nor the 1881 tax sale title to the land described as

"Essex County,
Old Military Tract,
Township No. 11,
Lot 221.. 120^a,"

you should, therefore, erase them from your lists of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *January 22d*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — You are hereby notified that the State no longer holds title to the lands in Essex county, described as

" Morgan (Jonas) Patent of 4,800^{a},
Lot 16 .... 100^{a},"

it having been redeemed therefrom on the 19th inst., and

"Totten and Crossfield's Purchase,
Township 14,
Lot 32 .... 160^{a},"

the 1877 tax-sale thereof having been canceled on the 19th inst.

You should, therefore, erase them from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *January 25th*, 1884.

VERPLANCK COLVIN, *Albany, N. Y.:*

SIR — The land described as

"Herkimer County,
Jerseyfield Patent,
Lot 57, S. W. cor., square $476\frac{47}{100}{}^{a}$, and on the W. line adj. aforesaid $476\frac{47}{100}{}^{a}$ square,
15^{a}, in all .... $491\frac{47}{100}{}^{a}$,"

which was included in the list furnished you of lands acquired by the State from the 1881 tax-sale, is *not* State property, and should, therefore, be struck from said list.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *February* 23*d*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The following described lands, which were included in the list of State lands sent you from this office, no longer being State property, should be struck therefrom, viz.:

"Clinton County,
Old Military Tract,
Township 5,

Lots 2 to 12, inc., 28 to 33, inc., Lots 48, 50 to 66, inc., and 68, 69 and 70."

"Essex County,
Old Military Tract,
Township 1 and 2,
Richard's Survey,

Lot 42, W. part .... 100^{a},

"Township 12,
Thorn's Survey,

Lot 22, S. ½ .... 80^{a},
" 59, do .... 80^{a},
" 143, W. ½ .... 80^{a},

"Roaring Brook Tract,

Lot 47 .... 260^{a},"

"Franklin County,
Gore, East of Township 9, Old Military Tract,

Lot 9, S. E. cor. .... 30^{a}."

"Macomb's Purchase,
Great Tract 1,
Township 23,
S. E. ¼,

N. end of 144^{a}, N. W. cor., &c. .... 111^{a},
S. " " " " &c. .... 33^{a},"

"Old Military Tract,
Township 10,
Lots 220, 293 and 354."

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *March 7th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.*:

SIR — The land described as

"Herkimer County,
Jerseyfield Patent,
Lot 41, N. ½, Ex. 50^a S. E. cor. and 50^a S. W. cor. thereof, resident land of David Hodge, 425^a,"

having been redeemed from our 1881 tax-sale, should be struck from your list of lands bid in thereat by the State.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *March 8th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.*:

SIR — The lands described as

"Clinton County,
Pion Patent,
Lot 4, S. W. cor., b'd E. by Turner .... 7^a,
and
Hamilton County,
Bergen's Purchase,
Patent No. 7,
Lot 1, ... 270^a,"

no longer being State property, should be struck from list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April 22d*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The following described land, being no longer State property, should be struck from your list of State lands, viz.:

"Warren County,
Rear division,
Palmer's Purchase,
Great Lot 3,

N. ½ of 3,150ᵃ, S. pt.................................... 1,575ᵃ,"

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April 25th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y..*

SIR — As the State now holds no title to the lands described as

"Herkimer County,
Vrooman's Patent,

Lot 9 all in Wilmurt, except 60ᵃ W. end thereof.......... 74ᵃ,"

it should be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comvtroller

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April 26th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Fulton County,
Lott and Low's Patent,

Lot 29, S. W. cor.................................... 40ᵃ," is no longer State property, and should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April* 28*th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Clinton County,
Gores,
Livingston Gore,

Lot 22, S. E. cor., 39^a, ex. S. Eell's 3^a in S. E. cor., 10^a, b'd N. by 10^a owned by A. Norris, E. by lot line, S. by 3^a owned by Eells, and W. by 15^a of McMurray, and 11^a, b'd N. by Farrell, E. by Town line, S. by Allen, and W. by McMurray, 15^a,"

should be placed on the list of State lands, recently sent you, it having been erroneously omitted therefrom by us.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April* 28*th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — Lot 250, Oxbow Tract, Hamilton county, is not now owned by the State, and should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comvtroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April 30th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Clinton County,
Old Military Tract,
Township 6,

Lot 34, N. W. cor., 94 r. wide N. and S, and 120 r. long, E. and W. .... 70ª,"

being no longer State property, should be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *May 12th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR—The lands described as

"Fulton County,
Jerseyfield Patent,

Lot 60, S. E. ¼ or S. E. cor. 250ª,
and " 61 W. part, S. W. cor., or W. cor .... 100ª,"

being no longer State property, should be erased from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *June 7th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Essex County,
Totten and Crossfield's Purchase,
Township 49,
Lot 12, ex. 25 ^{a} N. E. cor. and 253^a S. E. cor............. 547^a,"

not being State property, should be struck from your list of State lands.

Respectfully yours,
TH. E BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *June* 16*th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Saratoga County,
Glen and 44 others Patent,
Lot 112.. 250^a,"

being no longer State property, should be erased from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *June* 20*th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Clinton County,
Duerville Patent,
Lot 41.. 250^a,"

is no longer claimed by the State, and should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

Comptroller's Office,
Albany, *August* 11*th*, 1884.

Verplanck Colvin, *Supt. Adirondack Survey, Albany, N. Y.:*

Sir — Title to the lands described as

" Hamilton County,
Totten and Crossfield's Purchase,
Township 34,
Ex. 4,000^a s'ly end of township, 1,280^a Gospel, School and Literature lots," &c., 13,375^a.

" Saratoga County,
Kayaderosseras Patent,
22d allotment,
Great Lot 13,
Sub. F., B'd N. by lands of W. W. French, E. by lands of Charles E. Benedict, S. by lands of Perry Arnold, and W. by lands of Standish Bros.. 75^a,"

being no longer owned by the State, you should erase them from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

Comptroller's Office,
Albany, *August* 23*d*, 1884.

Verplanck Colvin, *Supt. Adirondack Survey, Albany, N. Y.:*

Sir — The land described as

" St. Lawrence Co.,
Lisbon Township,
Mile Square Lots,
Range 6,
Lots 4 and 5, Sub. 1.... .... 26$\frac{20}{100}^a$,"

is no longer claimed by the State, and should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
Comptroller's Office,
Albany, *October* 15*th*, 1884.

Verplanck Colvin, *Supt. Adirondack Survey, Albany, N. Y.:*

Sir — You are hereby notified that the State no longer holds title to the land described as

"Clinton County,
Plattsburgh Old Patent,
Lot 66, S. E. ¼, or S. E. cor.......................... 100^{a}."

It should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK.

No. 81.

IN ASSEMBLY,

March 9, 1886.

ANNUAL REPORT

OF THE COMMISSIONERS OF QUARANTINE.

To the Legislature:

I have the pleasure to transmit herewith the Annual Report of the Commissioners of Quarantine, this day received, together with the Report of the Health Officer, and an inventory of the property of the State now in the custody of such commissioners.

DAVID B. HILL.

Albany, *March* 9, 1886.

REPORT.

Office of the Commissioners of Quarantine,
New York, *January* 15, 1886.

To the Legislature:

The Board of Commissioners of Quarantine herewith present their Annual Report for the year ending December 31, 1885.

During the past season, under direction of the health officer, there were sent to the hospital on Swinburne Island, in all, twenty-two patients. Fourteen were suffering from yellow fever, and the remainder from Chagres and other low types of fever. Of these six died and sixteen were discharged cured.

The commissioners are by law made the custodians of all the State property used in carrying on the quarantine establishment, and they report thereon as follows:

Swinburne Island and its buildings remain in fair condition. It was found on a critical examination that the repairs necessary to the dock were of far greater extent than had been supposed. The work which the commissioners have been enabled to do under the appropriation of $1,500, made by the last Legislature, according to the opinion of the engineer, saved the dock from being carried away during the severe storm December last. There is need for additional expenditures in the same quarter.

At Hoffman Island the appropriation of $7,500 has been expended. The engineer in charge of these repairs, Mr. S. D. Hatch, makes the following report to the board:

Office of Stephen D. Hatch, 115 Broadway,
New York, *December* 21, 1885.

To the Board of Commissioners of Quarantine:

Gentlemen: I beg leave to submit the following report in relation to the work done at Hoffman Island, harbor of New York.

The repairs made at my suggestion and under my supervision have been completed. Owing to the comparatively small amount of money available for the purpose, we could only do enough to preserve the property through the winter. The principal work was ex tending a wall of concrete two and a half feet thick and five feet high inside of the bulkhead to preserve the filling, as the tides were rapidly taking this out and gradually undermining the foundations of the buildings, and destroying the island. The roofs of the hospital buildings were of slate, and being in a very exposed position, with two little pitch, they were in a bad condition. In building No. 1 the brick walls had suffered considerably by reason of the water soaking through them and freezing. A new tin roof was put on and the gutters and leaders repaired and all painted.

The slate roof on the other building was repaired with slates from the first-named building, and the gutters put in order so that it will probably last through the winter.

The timbers of the roof were properly tied together and secured, as it had shrunken to such an extent that the wooden keys in the splices were useless.

The plumbing was put in order; an additional new iron tank was put in to flush the closets, etc., with salt water, and a new two-inch galvanized iron main extended outside of slip to deep water.

The gas machine was repaired and the burners put in order, and the pits which received the gasoline tank, outside of the building, and generator pit, in the building, so improved as to be secure from water and sand. The island and buildings are in a safe condition for the present, but to properly protect the property there for the coming years it will require —

First. The extension of the concrete wall so as to completely encircle the island, and to plank a portion of the bulkhead, and refill a large portion of the island where it has been washed away.

Second. To put a new roof on the second building, and thoroughly repair the masonry of all the buildings, point them up and paint them.

Third. All the iron pipes now under ground, including the steam pipes, should be relaid, and the defective ones replaced by new, and all of them properly protected, and the steam pipes should be felted and boxed. There are several minor items of repairs which would be found necessary. In my judgment there ought to be the sum of $20,000 spent on the island and on the necessary repairs to the building, in order to preserve the property of the State from the action of the elements, as it has been practically without repairs for some years, and if left as it now is any considerable length of time, it will be a serious matter to retain the island and buildings thereon.

If the work suggested is carried out, the property will be in a better condition than it was when originally completed, and very little will be required for years thereafter. I am,

Very respectfully yours,

S. D. HATCH.

The residences of the Health Officer and his deputies are very much dilapidated, and require an immediate expenditure for repairs and painting.

The tug George C. Preston, purchased last year with part of the fund received from the sale of the steamer N. K. Hopkins, is still under assignment to the Health Officer, and is used daily by him in the discharge of his official duties.

From the appropriation of $500 made by the Legislature of 1885 for repairs to the ship Illinois, there was disbursed as per vouchers $465, and $35 remains in the hands of the comptroller.

The commissioners reported last year as in the Comptroller's hands, from the appropriation of 1884, to the credit of care and maintenance account.......	$4, 118 90
Add appropriation of 1885..	15, 000 00
	$19, 118 90
To December 31, 1885, there had been paid out, including the December vouchers..................	11, 344 84
Leaving a balance to the credit of his account with the Comptroller of................................	$7, 774 05

There is also in bank to the credit of the commissioners $600, proceeds of sale of the tug Fenton.

Of the special appropriation of $1,500 for repairs and hospital supplies to Swinburne Island, there has been received from the Comptroller to December 31 and expended $482.92, and that officer had in his hands on that date vouchers for expenditures of $1,017.08 for which he had not remitted. The payment of this sum will exhaust this appropriation.

The Hoffman Island appropriation of $7,500, when all the bills are paid, will show a balance of five cents unexpended.

The commissioners have in hand unused of the deficiency appropriation of 1883, $139.78.

Out of the special appropriation for flushing tanks, etc., at Hoffman Island there has been paid by the Comptroller $2,680.79, and $319.21 remains with him unexpended.

The question as to the disinfection of imported rags has been before the commissioners, acting as a board of appeal from the decision of the Health Officer, which required all rags which had not been disinfected abroad to be disinfected at this port.

The decision of the Health Officer was affirmed, the board laying down the broad rule that the proper protection of the public health demanded that all old rags should be subjected to satisfactory disinfection either here or abroad, as it was impossible to determine the localities where they had been gathered.

The board recommend an appropriation for care and maintenance of $10,000, which, with the balance of $7,774.05 in the hands of the comptroller, and with the continuance of the same close economy heretofore exercised, they hope will carry them through the current year.

The report of the Health Officer will be found herewith.

T. C. PLATT,
JOHN A. NICHOLS,
Commissioners of Quarantine.

HEALTH OFFICER'S DEP'T, STATE OF NEW YORK,
QUARANTINE, S. I., *March* 1, 1886.

The Honorable T. C. PLATT, *President of the Board of Quarantine Commissioners:*

SIR—I present the Annual Report of the Health Officer's Department of the New York Quarantine for the year 1885.

The quarantinable diseases hitherto recognized by the laws of this State have found no lodgment among the communities that the quarantine at this port are expected to protect. The act of 1885 increases the list of those diseases by the addition to them of scarlatina, diphtheria and measles, and gives to the Health Officer the right to remove cases of those diseases from incoming vessels, and to cleanse and disinfect them before they are discharged from quarantine.

The provisions of the act referred to have in other respects changed the health laws of the port to such an extent as to make it proper that it should be brought to your attention by insertion in this place.

CHAPTER 534.

"An act for the protection of the public health." Passed June 13, 1885.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. It shall be the duty of the health officers of the several ports of entry within the State of New York to require the masters of all merchant ships and vessels arriving at said ports from any foreign port, to present a bill of health, duly executed by the consul, vice-consul, or other consular officer of the United States, or by the medical officer attached to the United States consulate by appointment of the United States government, or the representative of the United States government resident at such port of departure, which shall set forth the sanitary condition and history of said vessel; also the sanitary condition of the cargo, and of the crew and passengers; also the sanitary condition of the food, water and ventilation of said vessel; the number of cases at such port of yellow fever, cholera, small-pox, typhus fever, relapsing fever, scarlatina, measles and diphtheria, the total number of deaths from each of these diseases from all causes, the week preceding the date of said bill of health, as far as can be ascertained by the said consul, vice-consul, or other consular officer of the United States, or the medical officer attached to such consulate.

§ 2. Said bill of health shall contain, in addition to the requirements of section one of this act, a statement of any circumstance affecting the public health in relation to infectious or contagious diseases at the port of departure, or the community adjacent thereto.

§ 3. Vessels that touch at other ports on the passage shall bring a bill of health from each and every port, or shall have indorsed upon the original bill of health by the consul, vice-consul, consular officer or medical officer of the consulate, the facts and conditions of those ports as to the existence and prevalence of the infectious and contagious diseases mentioned in the first section of this act.

§ 4. All persons coming from or through any foreign port or place, who, after the passage of this act, may arrive at the port of New York, shall be liable to an examination by the Health Officer or his deputies as regards their protection from small-pox.

§ 5. In case any person so arriving shall refuse to submit to such examination, or upon such examination shall be found not sufficiently protected from small-pox, or refuses to be protected by vaccination, such person, and in case such person be a minor, then also the person having him or her under charge, shall be detained in quarantine until he or she shall have passed the incubative period from date of last possible exposure; and the expense of such detention shall be chargeable by the commissioners of quarantine upon the consignees or owners of the vessel having such person on board, and such expenses as may be incurred shall be a lien upon such vessel.

§ 6. The diseases against which maritime sanitary regulations at the port of New York shall apply are yellow fever, measles, cholera, typhus or ship fever, small-pox, scarlatina, diphtheria, relapsing fever, and any disease of a contagious, infectious or pestilential character which shall be considered by the Health Officer dangerous to the public health. And all such quarantinable diseases, except yellow fever, cholera, typhus fever and small-pox, shall be removed to the emigration hospital, Castle Garden or Ward's Island.

§ 7. The master of a vessel who shall refuse or neglect to comply with the provisions of sections one, two and three of this act, shall be guilty of a misdemeanor, and be punished by a fine of not less than one hundred dollars nor more than five hundred dollars.

§ 8. This act shall take effect immediately.

The number of vessels inspected by the deputy health officer at the station in the lower bay during the summer and early fall will be found in the following tabulated report of the deputy on duty at that station:

Report of Lower Quarantine for 1885 (*from July 2 to October* 1, 1885).

INFECTED PORTS.	No. of vessels arriving during the period of infect'n.	No. of vessels with sickness.	No. of Sick			No. of Deaths.		
			In port of departure.	On the passage.	In quarantine.	In port of departure.	On the passage.	In quarantine.
Pernambuco	4	......	......	......	......	......	......	......
Bahia	15	3	......	......	......	......	......	......
Aspinwall	16	......	......	......	......	......	......	......
Havana	47	......	......	12	7	2	3	1
Cienfugos	10	1	......	4	1	......	2	1
Santiago	5	......	......	......	......	......	......	......
Carthagena	3	......	......	......	......	......	......	......
Rio de Janeiro	29	......	......	......	......	......	......	......
Vera Cruz	10	......	......	......	......	......	......	......
Para	9	......	......	......	......	......	......	......
Cayenne	1	1	1	8	3	......	5	......
San Andres	1	1	......	4	4	4	......	......
	150	6	1	28	15	6	10	2

The total number of vessels inspected at the lower quarantine during the summer and fall of 1885 was 575.

In 1885 the number of vessels from foreign ports inspected was 5,908.

There were 1919 less vessels from foreign ports in 1885 than in 1880, and 127 less than in 1884.

The steam mercantile marine is steadily driving the sailing vessels from trade and commerce.

Neither from a sanitary nor commercial view can this be regretted. The rapid transit of steamers greatly shortens the period to which the crew are subjected to the often crowded and filthy condition of the forecastle. In several instances during the past six years fifty per cent of the crew of sailing vessels have died on the voyage, and so many others were disabled by sickness that it was with great difficulty that the vessel succeeded in reaching port.

It has been the desire of the Health Officer to make the burdens which maritime sanitation necessarily imposes to a certain extent as light as possible. To this end, ports in the West Indies, and ports in other portions of the world, subject to, or for the time being suffering from, epidemics of pestilential diseases, have been watched with constant scrutiny.

By careful observation of the nature and extent of infectious and contagious diseases at those ports of departure where yellow fever prevails to a greater or less extent every year, considered in connection with the history of the vessel on the voyage, the Health Officer has been able to relieve the merchants engaged in trade with such ports of a large expense in lightering their goods. While in years past vessels from infected ports have generally commenced discharging "in quarantine" early in June, for the few years past they have not discharged a vessel until about the first of August, the past season not until about the fifth of that month.

The immigration to this country through the port of New York for the year 1885 was less than in any year since 1879.

The number of steerage passengers inspected in

1880	327, 371
1881	455, 681
1882	476, 086
1883	405, 909
1884	321, 231
1885	281, 170
Total	2, 267, 448

The cases of small-pox on passenger steamers during the three years last past have been much less than in previous years. This is attributable to the more efficient and early attention to the vaccination of immigrant passengers by the medical officers of passenger steamers under the direction of the Health Officer.

The efficiency of the system of vaccination by the medical officers of steamers when generally affected, and soon after leaving port, was well illustrated the past year.

The steamer Weser, of the North German Lloyd line, arrived June 2 with 1,046 steerage passengers. Three cases of small-pox were found on inspection of the passengers at quarantine. The surgeon of the Weser had vaccinated 700; of this number 229 were found to be successful. The number vaccinated proved that the medical officer had been thorough in his effort to find the insufficiently protected persons, and the number that were successful, considering that a large majority had at some previous period been successfully vaccinated, that he had good *vaccina.*

Notwithstanding this, the exposure to the contagion had been so considerable, it was thought best to detain all the passengers except those successfully vaccinated by the surgeon until the full period of incubation had elapsed, dating from the time the cases were taken from the steamer. But not a case developed during the succeeding fourteen days.

A marked contrast to this result was observed in the case ot the steamship Polynesia, from Hamburg.

The day following the arrival of the Weser the Polynesia entered quarantine with 766 passengers in the steerage. Two cases of small-pox were found in the steamer's hospital, which the surgeon declared were isolated in the initial stages of the disease — before the appearance of the eruption. The mother of one of the patients, a Hungarian, was interrogated through an interpreter, and the fact elicited that they had not been isolated until the third day after the development of the eruption. The surgeon had vaccinated but fifty-six of the whole number, and of these but one was successful. The steamer and passengers were detained fourteen days, as in the case of the Weser, the managers of the line electing to keep the passengers under observation on the steamers instead of removing them to the quarantine of observation, Hoffman Island. Thirty-eight additional cases of small-pox and varioloid developed among the passengers of the Polynesia during the fourteen days that they were under observation.

It would be difficult to estimate the epidemics and consequent loss of life and paralysis of business among interior communities had the passengers of the Polynesia been allowed to disperse without detention. No more striking illustration of the utility of the system of vaccination of passengers by the surgeons of steamers, which was adopted by the Health Officer in 1881, could be afforded. And which, if it could be as thoroughly secured as it was in the case of the Weser, would prevent the development among immigrants of cases of this loathsome disease after they have reached our shores. The prevalence of cholera in several European countries, and its great fatality during the past year, has excited the liveliest apprehension throughout this country, and is in an especial degree at this port, where nearly three-fourths of the immigration enters, and a large portion of the trade and commerce of the country is concentrated.

That no case of this dread disease has reached our shores is reason for profound thankfulness to Him under whose direction the human mind has advanced to such a degree in methods and measures of sanitation as to prevent thus far the introduction of this pestilence. The danger has, however, not passed. The hibernation of the germs of this disease in the countries which were desolated during the past year, is probable, and its return in epidemic proportions with the ensuing spring and summer not unlikely.

Portions of Italy are indeed still suffering from the disease, and isolated cases are reported in the Venetian States and in Southern Austria.

It is a source of satisfaction that this protection to the public health has been afforded without material embarrassment to the commerce of the port. The detention of vessels with passengers and cargoes from cholera infected ports has in no instance been more than a few hours, while the discharge of such cargoes in quarantine was a rare exception.

Old rags is the only merchandise upon which restrictions have been placed. These come from all countries, from the filthy and pestilence-smitten as well as from the more cleanly and healty localities, gathered in the most dangerously affected districts of country, and shipped from ports where infectious and contagious diseases prevail to healthy ports; not for distribution among the manufactories there, but for transshipment to this country. It is impossible to trace such shipments to the objectionable localities, or to determine the most dangerous from the least. Under these circumstances, the Health Officer has considered it his duty to require that all rags entering this port for distribution should be disinfected before shipment or on arrival. About six-sevenths of the importations at New York during the past year have been disinfected before they were shipped, by a process which was prescribed by the late Secretary of the Treasury McCulloch, but which has been frequently impeached in regard to its efficiency by expert observers as practiced at the points for disinfection in Europe.

The extensive repairs to Hoffman Island during the past season are a source of satisfaction, removing, as it does, the apprehension which has existed from the fact that infected passengers could not be rendered comfortable while detained for observation. It is believed that the quarantine establishment is now in good condition for any emergency likely to arise from the arrival of persons with cholera or other pestilential diseases, and for the isolation and observation of those who have been exposed to such diseases.

I am greatly indepted to Deputy Health Officer E. B. Sanborn for the success which has attended the successful discharge of my responsibilities and duties. His industry, energy and intelligence have been as superior as he has been efficient.

Dr. A. W. Smith had charge of the quarantine station in the lower bay during the past summer and fall. To his watchfulness and good judgment I was largely indebted during the yellow fever season for success in preventing the admission of infected vessels to the wharves of the city.

Very respectfully,

WM. M. SMITH.

Health Officer Port of New York.

INVENTORY OF ARTICLES

AT THE HEALTH OFFICERS' RESIDENCE, STATEN ISLAND.

Hall.

1 carpet, much soiled and worn,
1 hat rack,
1 stair carpet and rods,
4 shades,
1 stove.

Office.

2 lambrequins,
4 shades,
4 chairs,
2 easy chairs.
1 writing table,
1 desk,
1 carpet (dilapidated).

Library.

1 table,
1 carpet,
1 lambrequin,
1 mantle lambrequin,
1 rug (dilapidated),
4 sets of shelves.

Butler's pantry.

4 fruit dishes,
2 platters (large),
1 fish dish,
10 breakfast plates,
26 saucers (different sizes),
11 sauce plates,
12 after-dinner cups and saucers,
1 gravy dish,
1 cheese dish,
1 standard jelly dish,
1 chair (old),
12 glasses (wine),
15 champagne glasses,
21 glass cups,
12 finger bowls,
1 celery glass,
(The above are portions of different sets.)
1 side table,
1 chest of drawers,
1 oil cloth (much worn).

Blue parlor.

4 cornices,
2 lambrequins,
1 mantel do,
1 mirror,
1 table,
1 card table,
1 marble-top table,
2 round stands,
1 easel,
1 carpet (faded and worn),
6 chairs (dilapidated),
2 ottomans.

Red parlor.

4 small chairs,
2 easy do,
2 sofas,
1 double lambrequin,
1 mantel lambrequin,
1 mirror,
1 music stand,
1 card table,
1 piano stool,
2 rugs (much worn),
3 ottomons,
1 carpet (very poor).

Dining room.

2 lambrequins,
1 pier glass,
1 whatnot,
1 chair,
9 dining chairs,
1 sofa,
1 side table,
1 ice pitcher,
1 table,
1 table spread,
1 caster.

Hall (second floor).

1 carpet (much worn),
1 stair carpet (upper stairs).

East room (second floor).

1 dressing case,
1 bedstead,
1 writing desk,
3 chairs (much worn),
1 sofa,
1 small table,
1 whatnot,
1 carpet,
1 camp stool,
1 mattress.

South-east room (second floor).

4 cornices,
1 mantel lambrequin,
1 rug (faded and worn),
1 carpet do
1 dressing case,
1 bed,
1 mattress,
1 pair pillows,
1 bolster,
1 towel rack,
4 chairs (faded and worn),
1 easy chair do
1 sofa do
1 marble-top table,
1 looking-glass,
1 whatnot.

South-west room (second floor).

1 chamber set,
1 carpet,
1 mattress,
2 shades.

West room (second floor).

1 chamber set,
1 lambrequin,
1 shade,
2 pillows,
3 blankets,
2 mattresses.

North-west room (second floor).

1 lambrequin (soiled),
1 carpet (faded and soiled),
1 dressing case,
2 chairs,
1 bedstead,
2 mattresses (soiled),
1 ottoman,
2 toilet stands.

North room (second floor).

1 toilet table,
1 chair,
2 shades,
1 dressing case (without mirror),
7 bolsters,
6 pillows,
4 blankets (worn and soiled).

Hall (third floor).

1 carpet (much worn, useless),
1 oilcloth.

North room (third floor).

1 iron bedstead (poor),
1 washstand do
1 chest of drawers.

North-east room (third floor).

1 bed,
1 chair,
1 dressing case,
1 pillow,
1 mattress,
1 carpet (much worn and faded).

East room (third floor).

1 chamber set,
1 carpet (faded and worn),
1 wash bowl

South-east room (third floor.)

1 chamber set,
1 carpet,
1 camp chair,
1 sofa,
2 mattresses (badly soiled).

South-west room (third floor).

2 iron bedsteads,
1 mattress (much soiled).

West room (third floor).

1 chair,
1 chest of drawers,
1 washstand,
(All in poor condition).

Kitchen.

1 kitchen range,
1 clothes horse,
1 refrigerator,
1 table,
1 laundry stove.

WM. M. SMITH,
Health Officer.

LIST OF STATE PROPERTY

AT THE DEPUTY HEALTH OFFICER'S RESIDENCE.

1 mantel mirror,
1 oval black-walnut table,
1 dining table,
1 parlor carpet,
1 sideboard,
1 small walnut table,
4 cane chairs (walnut),
5 cane chairs,
2 kitchen tables,
1 sofa,
1 wash stand (walnut),
2 bureaus,
4 stuffed chairs,
1 chest drawers,
2 towel racks,
2 pine wardrobes,
1 pine bedstead,
3 blankets,
1 mattress,
2 pine bureaus,
2 pine stands,
1 lounge,
1 rocking chair,
1 bedstead (black walnut),
and a little old crockery.

Signed, E. B. SANBORN.

LIST OF ARTICLES

AT THE RESIDENCE OF DEPUTY HEALTH OFFICER.

(Formerly occupied by Dr. McCartney.)

Parlor.

1 carpet,
1 sofa,
1 marble-topped table,
4 stuffed chairs,
2 stuffed arm chairs,
1 steamer chair.

Dining room.

1 sideboard,
1 wardrobe,
4 dining chairs,
1 sofa,
1 extension table.

Second floor.

1 bedstead,
2 sofas,
6 chairs (cane),
1 arm chair,
1 steamer chair,
1 small table,
1 wardrobe (black walnut).

Hall.

1 wardrobe (black walnut),
1 bureau,
1 wash stand.

Top Floor.

1 bureau (pine),
1 wash stand do,
1 rocking chair,
1 wash stand,
4 iron bedsteads,
1 wash stand (pine),
6 straw mattresses,
1 bureau (pine),
1 bedstead do,
1 wash stand (pine),
1 wash bowl and pitcher,
1 carpet,
4 mattresses,
2 carpets,
2 pair pillows,
25 blankets,
1 old kitchen table,
1 lamp.

INVENTORY OF STATE PROPERTY

ON SWINBURNE ISLAND, QUARANTINE, OCTOBER 21, 1885.

I. Superintendent's House.

Hall.

39 by 8 feet oil cloth,
4 mats,
1 hat rack,
83 by 2 feet brussels stair carpet,
36 brass stair rods,
1 cane-seat chair,
1 clock,
1 thermometer,
1 bronze burner.

Parlor.

39 by 15 feet brussels carpet,
1 marble-top center table,
1 ebonized stand,
2 cane-seat chairs,
1 lounge & green rep sofa,
1 Cretonne lounge,
1 pier glass, marble slab,
5 window cornices & lambrequins,
2 bronze chandl'rs, 6 burners each,
1 student's lamp,
5 white window shades,
1 cuspidor,
2 sofa pillows.

Sitting-room.

17 by 15 feet brussels carpet,
1 pier glass & marble slab,
1 hair cloth sofa,
1 center table and spread,
5 chairs,
2 white shades,
1 bronze chandelier, 4 burners,
1 walnut writing desk,
1 scrap basket,
1 cuspidor.

Closet out of sitting-room.

1 Herring safe, 4 feet high, 3 feet by 2 on top.

Dining room.

17 by 15 feet oil cloth,
1 breakfast, dinner & tea set of china (imperfect),
1 oak extension table,
9 cane-seat chairs,
1 oak buffet,
1 bronze chandelier, 2 burners,
1 steel and cheese scoop,
2 steel carvers and forks.

Back vestibule and kitchen.

1 table,
6 chairs,
1 stand and water cooler,
1 refrigerator,
15 by 10 ft. oilcloth in kitchen,
11 by 6 ft. oilcloth in hall,
1 kerosene lamp,
1 small scales,
1 butler's tray,
24 by 10 vestibule oil cloth,
3 tin pails,
2 dish pans,
1 tin cake box,
2 sauce pans,
2 coffee pots,
2 tea pots,
1 stove,
1 step-ladder,
1 copper tea kettle,
2 white shades,
2 tin dish covers and dishes and scoop.

Bath-room.

11½ by 7 feet oil cloth,
1 mat,
1 looking-glass,
1 tin foot bath,
1 cuspidor,

Plated ware.

2 salvers,
2 ice pitchers,
1 cake basket,
1 butter dish,
1 cruet stand,
1 dozen knives,
1 dozen tea spoons,
10 table spoons,
2 salt spoons,
1 mustard spoon,
3 butter knives,
42 forks.

Glass.

72 champagne glasses,
12 wine glasses,
4 celery glasses,
5 glass decanters,
3 fruit dishes,
5 preserve dishes,
1 crumb pan and brush,
1 dinner bell,
5 metal salvers.

Conservatory.

1 step ladder,
2 camp chairs,
1 cuspidor,
1 piece carpet.

Hall (*second floor*).

20½ by 8 feet oil cloth,
1 small chest of drawers,
1 hair cloth chair,
1 table.

Nursery (*second floor, back*).

17 by 15 feet ingrain carpet,
1 oak bedstead,
1 set springs,
2 pillows, feather,
2 burner chandelier,
3 white muslin shades,

Nursery, etc. — (*continued*).

1 hair mattress,
1 wash stand,
5 chairs,
1 wardrobe closet,
3 colored drapery curtains,
1 toilet set,
1 mantel lambrequin,
1 foot stool.

Second floor, front, No. 1.

1 black walnut bedstead,
2 hair mattress,
1 set springs,
1 black walnut marble top bureau,
1 wash stand (marble top),
1 china toilet set,
2 walnut arm chairs,
1 hair-cloth chair,
1 stool,
2 feather pillows,
2 burner chandelier.

Second floor, front, No. 2.

17 by 15 feet brussels carpet,
3 muslin shades,
3 drapery curtains,
1 green rep lounge,
2 burner chandelier,
1 oak bedstead,
1 hair mattress,
1 set springs,
1 wash stand,
1 toilet set,
1 oak dressing bureau,
4 chairs,
1 stand and foot stool,
4 feather pillows,
1 mantel lambrequin.

Second floor, back room.

17 by 15 feet ingrain carpet,
1 oak bedstead,
1 hair mattress,
1 set springs,
1 oak dressing bureau,
1 wash stand,
1 toilet set,
2 white shades,
2 muslin drapery curtains,
4 chairs,
2 burner chandelier,
1 wardrobe closet,
1 mantel lambrequin.

Front hall bed-room.

1 iron bedstead,
1 wash stand,
1 looking glass,
1 toilet set,
3 mattresses.
2 chairs,
1 burner chandelier,
8 by 12 feet old carpet & matting,
1 stand and cotton cover,
1 clock,
1 white shade,
2 feather pillows.

Attic.

2 iron bedsteads,
1 bolster,
1 wardrobe closet,
40 feet stove pipe,
1 old sofa (bad order),
1 tin bath tub,
old chairs.

Household Articles.

14 linen sheets,
9 linen pillow cases,
24 cotton pillow cases,
33 hand towels,
23 towels for other uses,
6 counterpanes,
2 cotton buffet covers,
1 table blanket. canton flannel,
1 red lunch cloth,
1 dozen red lunch napkins,
3 cotton tidies,
14 white woolen blankets,
16 cotton sheets,
10 linen table cloths.

Articles in the fumigating-room for season of 1885.

40 sheets,
23 pillow cases,
11 gray blankets,
22 white blankets,
night shirts,
3 beds,
41 pillows,
25 counterpanes.

Corridor extension — Bed-room No. 1.

1 iron bedstead,
2 hair mattresses,
2 cotton sheets,
2 white blankets,
1 bed spread,
2 pillows,
2 pillow cases,
1 chair,
1 stand,
1 carpet.

Connecting-room.

1 chair,
1 table,
1 whatnot,
1 self-adjusting black walnut and hair cloth chair,
1 carpet.

Bed-room No. 2.

2 iron bedsteads,
1 hair mattress,
1 husk mattress,
2 cork mattresses,
1 pillow case,
2 pillows,
2 bed spreads,
1 looking glass,
2 chairs,
1 carpet.

Bed-room No. 6.

1 iron bedstead,
1 husk mattress,
1 hair mattress,
2 chairs,
1 chamber,
2 pillows,
4 covers,
4 sheets,
1 table,
2 white blankets,
1 stand,
2 bed spreads,
1 looking glass.

Bed-room No. 7.

1 iron bedstead,
3 chairs.

Bed-room No. 8.

1 iron bedstead,
2 chairs,
1 table,
1 looking glass,
2 hair mattresses,
2 sheets,
1 pillow and cover,
1 bed spread,
2 white blankets,
1 gray blanket.

Bed-room No. 9.

1 iron bedstead,
1 chair,
2 mattresses,
1 pillow.

Hospital corridor.

159 feet matting, 6¼ ft. wide,
80 feet matting, 2 feet wide,
3 lengths hose and nozzles,
2 cuspidores.

Hospital Kitchen.

4 large platters,
1 soup tureen,
4 large vegetable dishes,
2 small “ “
1 pickle dish,
4 meat platters,
3 bowls,
3 gravy dishes,
1 sugar dish,
1 large pitcher,
1 small “
9 iron pots,
1 chopping knife,
1 steel,
1 carving knife and fork,
1 coffee pot,
2 tea pots,
3 large dish pans,
2 small “
2 large pudding tins,
2 small “ “
1 tin cup,
4 frying pans,
1 boiler,
1 toaster,
1 dipper,
2 tables.
6 chairs,
3 table covers,
6 hand towels,
12 dish towels,
2 bread covers,
6 smoothing irons,
6 sacks salt,
1 chopping bowl,
1 chopping machine,
1 bread board,
1 meat board,
9 small baking pans,
2 large “ “
4 earthen sponge bowls,
1 waffle iron,
2 coal scuttles,
1 fire shovel.

Corridor extension.

49 feet matting, 6 feet wide,
98 feet oil cloth, 2 feet wide.

Butcher's shop.

1 small Fairbanks scales,
2 ice tongs,
1 meat saw,
1 cleaver,
1 butcher's knife.

Ice-house.

1 large refrigerator,
1 meat safe,
1 chair,
1 bread box,
1 small scale,
1 ice pick.

Employee's dining-room.

1 extension table,
7 chairs,
24 soup plates,
26 dinner "
6 dessert "
38 saucers,
16 cups,
18 preserve plates,
10 knives,
10 forks,
6 plated tablespoons,
7 plated teaspoons,
1 cruet stand,
1 sugar bowl,
1 spoon holder,
1 celery glass.

Store-room opposite.

10 chairs,
1 table,
1 clothes horse,
2 skirt boards,
1 step ladder,
2 mop handles,
1 window brush,
1 window broom.

Hospital wards — ward A.

17 iron bedsteads,
16 stands,
11 chairs,
14 chambers,
2 commodes,
2 bed pans,
1 pitcher,
2 basins,
19 pillows,
12 husk mattresses,
11 cork mattresses,
3 pillow cases,
6 linen sheets,
3 gray blankets,
3 white blankets,
3 bed spreads.

Hospital wards — ward B.

16 iron bedsteads,
18 stands,
14 chairs (1 invalid chair),
1 table,
3 commodes,
16 chambers,
16 husk mattresses,
16 cork "
10 linen sheets,
14 bed spreads,
18 pillows,
1 cover,
5 gray blankets,
7 white blankets,
1 bed pan,
3 basins.

Nurses room — ward A.

2 chairs,
1 table,
1 cuspidor,

Nurse's room — ward B.

1 iron bedstead,
1 cork mattress,
1 hair pillow,
1 table,
1 chamber.

Store-room — ward A.

5 gray shirts,
28 bed spreads,
30 linen sheets,
47 pillow cases,
3 looking-glasses,
1 soap dish.

Store-room — ward B.

1 table,
4 chairs,
2 water jars,
2 water pitchers,
2 milk pitchers,
7 cups,
3 sugar bowls,
8 saucers,
2 glasses,
1 teapot,
1 tea urn,
4 invalid cups,
4 salvers,
12 soup tins,
22 tin plates, 3 stone ware,
7 cups, 2 soap dishes,
7 knives and forks,
3 tin vegetable dishes,
1 spoon bowl, 7 tablespoons,
5 teaspoons, 1 salt cellar,
2 vegetable dishes,
1 molasses tin dish.

Hospital wards — ward C.

16 iron bedsteads,
17 stands,
15 chairs,
17 husk mattresses,
15 cork mattresses,
38 hair pillows,
1 settee,
3 commodes,
1 table,
2 bed pans,
2 chambers and covers.

Nurse's room — ward C.

3 chairs,
1 table,
1 looking glass,
1 soap dish.

Store-room — ward C.

675 tin plates,
650 tin cups,
583 tin basins,
10 tin dippers,
26 tin ladles,
13 tin molasses pitchers,
3 baking tins,
3 boilers,
1 tea kettle,
1 iron pot,
5 pepper boxes,
1 chair,
1 stool.

Hospital wards — ward D.

12 iron bedsteads,
4 wooden cots,
16 husk mattresses,
16 cord “
16 stands,
16 chairs.
3 commodes,
2 chambers,
31 hair pillows,
1 bed pan.

Nurse's room — ward D.

1 iron bedstead,
2 chairs,
1 table,
1 cork mattress,
1 chamber and cover,
1 looking-glass,
1 soap dish,
2 pillows,
1 linen sheet.
1 white blanket and bedspread,
1 linen pillow case,
1 glass tumbler.

Hospital wards — ward E.

16 wooden cots,
16 husk mattresses,
16 cork “
32 hair pillows,
13 chairs,
14 stands,
1 commode,
8 chambers.

Nurse's room — ward E.

1 iron bedstead,
3 cork mattresses,
1 husk mattress,
2 hair pillows,
2 chairs,
1 chamber,
2 stands,
1 looking-glass.

Store-room — ward E.

98 plates,
113 vegetable dishes,
142 platters,
3 bowls,
17 gravy bowls,
7 sauce bowls,
21 pickle dishes,
5 butter dishes,
7 celery glasses,
3 spoon glasses,
22 salt cellars,
90 pie plates,
29 preserve plates,
1 sugar bowl,
6 covers,
3 water coolers,
436 knives,
311 forks,
102 new pewter spoons,
11 old “ “
6 salvers,
4 coffee urns,
1 tea urn.
3 casters (no bottles),
2 covered tins,
2 tin meat dishes,
6 mustard spoons,
12 dish covers,
25 vegetable covers,
11 saucers,
1 glass water jar,
1 stool.

Hospital wards — ward F.

19 wooden cots,
18 husk mattresses,
16 cork “
34 pillows,
14 stands,
17 chairs (1 invalid),
4 commodes,
14 chambers,
6 bed pans.

Nurse's room — ward F.

1 goblet,
2 towels,
1 writing desk,
1 clock,
1 looking-glass,
1 soap dish,
4 sheets,
2 pair pillow cases,
4 double blankets,
1 single blanket,
1 table,
1 bedstead,
2 mattresses,
1 pillow,
1 match safe,
1 white curtain,
1 chamber.

Store-room — ward F.

40 tin cups,
38 tin ladles,
28 tin dish pans,
180 tin plates,
184 tin basins,
8 pepper boxes,
7 tin molasses cups,
1 water kettle,
3 water pails.

Hospital wards — ward G.

496 linen sheets,
257 linen pillow cases,
629 cotton sheets,
134 cotton cases,
75 bed spreads,
91 double blankets,
29 single blankets,
399 bed ticks,
528 pillow ticking covers,
3 chairs,
1 stool.

Nurse's room — ward G.

1 wooden cot,
1 husk mattress,
1 cork mattress,
1 chair,
2 linen sheets,
1 bed spread,

Store-room — ward G.

11 tin reflectors,
2 oil cans,
8 lanterns.

Telegraph office.

1 desk,
1 invalid chair,
3 cane chairs,
1 clock,
2 curtains.

Hospital wards — ward H.

3 iron bedsteads,
3 husk mattresses,
3 cork “
7 chairs,
3 stands,
1 chamber,
1 stove.

Nurse's room — ward H.

1 wooden cot,
1 cork mattress,
1 husk mattress,
4 pillows,
8 stands,
4 chairs,
1 commode,
1 chamber,
1 soap dish.

Store-room — ward H.

55 water jugs,
35 invalid cups,
7 bed pans,
32 soap dishes,
2 chambers,
4 brooms,
3 mop handles,
1 box clothes pins,
9 earthen mugs,
26 bowls,
5 bake tins.

Hospital laundry.

3 coil hose,
1 mangle.

Small laundry.

1 small mangle,
1 stove.

Superintendent's outer office.

1 desk,
1 letter press,
1 small burglarized safe,
some old stationery.

Engine-room.

1 length hose and nozzle,
3 stocks for dies,
16 dies from ¼ inch to 2½ inches,
2 pipe cutters,
1 drill,
1 tack hammer,
1 shears,
4 flat cold chisels,
1 chip chisel,
7 drills,
3 punches,
1 monkey wrench,
1 vise,
1 drill vise,

Engine-room —(Continued).

1 brace,
3 taps, ½, 1½, ⅜, and 1¼ inch,
3 brass nozzles,
13 tongs, ¼ inch to 2½ inch,
1 blacksmith's forge, anvil and fixtures,
5 old files,
1 gas tong,
2 screw-drivers,
1 plyers,
1 large square,
1 soldering furnace,
1 hand shovel,
1 scoop,
1 watering pot,
1 lantern,
1 wash basin,
3 chairs,
1 clock,
1 lamp and reflector,
1 dust pan and brush,
1 ladder.

Baggage-house.

89 mattresses,
199 pillows,
3 iron bedsteads,
2 ladders,
3 boat sails,
64 pieces slate,
2 iron stanchions,
1 chair,
25 pieces lumber,
1 pulley,
1 sledge hammer,
1 shovel,
1 length rubber hose,
2 pieces iron pipe,
6 saw horses,
3 pieces blinds,
1 part of bridge,
4 pieces of radiators,
1 poker,
5 stretchers,
109 wooden bedsteads,
2 rolls steel wire,
1 old pump,
1 quarter barrel soft coal,
1 half barrel copperas,
1 half barrel sulphur,
34 pieces iron pipe,
1 sledge hammer,
1 lamp bracket,
6 washtubs,
2 wood horses,
1 cross cut saw,
1 sofa,
1 door,
10 wash stands,
1 block and fall,
6 blankets,
1 anchor,
1 tinker's fire pan,
1 step ladder,
1 nozzle,
2 wheel barrows.

The Morgue.

1 quarter keg carbolic acid,
1 wash stand and bowl.

Coal-house.

3 hand trucks,
50 tons coal,
1 spade,
2 shovels,
1 coal screen.

Carpenter's Shop.

2 wooden settees,
2 cane "
5 small coffins,
2 large "
1 half keg nails,
1 ladder,
1 awning,
3 step ladders,
1 American flag,
10 chisels,
5 gouges,
1 cross-cut saw,
13 augers,
8 blocks and falls,
2 keyhole saws,
1 level,
4 planes,
1 rasp,
1 spoke shave,
2 axes,
1 grind stone,
3 chairs,
1 slitting saw,
1 hand saw.

Dock.

3 row boats.

Hoffman Island — Hospital.

91 pairs white blankets,
3 wood cots,
350 pairs gray blankets.

Parlor.

2 window shades,
6 chairs,
1 sofa,
1 carpet,
1 table,
1 table cover,
2 mats,
1 stove and pipe,
1 square oil cloth,
1 square zinc.

Dining-room.

1 carpet,
1 curtain,
1 dining table.

Chambers.

5 iron cots,
4 wooden cots,
7 mattresses,
9 chairs,
3 carpets,
6 sheets,
2 stoves,
2 oil cloth squares,
2 zinc squares,
3 wash stands,
1 water bottle,
2 small tables,
2 wash basins,
1 water pitcher,
10 pillows,
4 pairs loop curtains,
1 bureau,
1 towel rack,
1 bedstead.

Kitchen.

10 chairs,
2 small tables,
1 lamp,
1 frying pan,
1 sauce pan,
2 spoons,
6 knives,
6 forks,
2 meat dishes,
6 dinner plases,
6 tin pie plates,
1 clock.

Engine-room.

2 washing machines,
4 lanterns,
2 oil lamps,
2 wheelbarrows,
1 coal shovel,
1 axe,
1 ice box,
1 hose coil.

Passage.

1 oil cloth,
4 mats,
1 row boat.

Ship "Illinois."

1 lage dish,
4 chambers,
17 dinner plates,
5 white blankets,
17 sheets,
8 pillow slips,
2 pillows,
6 husk mattresses,
3 tablespoons,
14 forks,
2 knives,
4 bedsteads,
1 reflecting lamp frame,
1 cruet stand and 3 bottles.

Hospital Ship.

2 anchors and necessary chains,
1 capstan and bars,
1 5-inch hawser,
1 3-inch hawser,
6 sets blocks and falls,
4 single blocks,
3 iron water tanks,
2 pumps,
1 length hose,
1 row boat and boat hook, and 3 pairs oars,
2 yellow flags,
1 jack,
1 pair halyards,
1 quarter barrel paint,
3 paint brushes,
6 galvanized buckets,
8 lanterms,
1 stove lifter,
1 poker,
1 broiler,
1 griddle,
3 bath tubs and pipes,
3 large tables (mahogany),
3 small tables (pine),
7 wash stands (mahogany),
4 iron bedsteads,
1 wooden cot,
2 water crocks,
2 wash bowls,
6 cane chairs,
8 white blankets,
6 sheets,
6 pillow cases,
8 pillows,
8 husk mattresses,

Hospital Ship—(Continued).

1 range,
1 stove,
2 pots,
2 kettles,
2 baking pans,
4 wash boilers,
2 pie pans,
2 pudding pans,
2 oak desks,
2 pieces old carpet and old matting
1 bureau (painted),
1 old looking glass,
1 awning and stanchions,
6 pair iron davits,
1 ice cooler,
2 swinging booms.

Office.

1 Marvin safe,
1 letter press and stand,
1 water cooler and stand,
1 secretary desk (walnut),
1 book case (walnut),
1 looking glass (frame walnut),
6 office chairs (walnut),
3 small mats,
1 carpet (12 yards),
1 umbrella stand (iron),
3 cuspidores,
1 ink stand and rack,
1 sponge glass and sponge,
1 match safe.

Steam-boat

"George C. Preston" and all other necessaries thereunto appertaining and belonging to said "George C. Preston."

No. 82.

IN ASSEMBLY,

March 17, 1886.

REPORT

OF THE SUB-COMMITTEE OF THE WHOLE.

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 230, G. O. 186, entitled "An act to make the office of county clerk of Monroe county a salaried office, and regulating the management of said office," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Berry
Liddle
Hall
Budlong
Titus
Cheney
McManus
Chase
Henry
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 297, G. O. 231, entitled "An act to establish a fire district in a part of the town of Waterford, and to provide for a supply of water, and to purchase apparatus or hose or both, for extinguishment of fires therein, and to pay for the same by assessment, levy and collection thereof upon such district, and directing the care, management and control of the same," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Berry
Liddle
Hall
Budlong
Cheney
McManus
Chase
Henry
10

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 268, G. O. 216, entitled "An act to amend an act entitled 'An act to incorporate the Hamilton Protection Society, of the town of Hamilton, Madison county, N. Y., passed April 23, 1867,'" reported in favor of the passage of the same with some amendment, as follows:

Section 1, line 1, strike out the words "an act," and insert "chapter 690 of the Laws of 1867, entitled an act to incorporate the Hamilton Protection Society of the town of Hamilton, Madison county," with the title also amended so it will read "An act to amend chapter 690 of the Laws of 1867, entitled An act to incorporate the Hamilton Protection Society of the town of Hamilton, Madison county, N. Y."

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
McManus
Chase
Henry
12

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 172, G. O. 134, entitled "An act to amend an act entitled 'An act to consolidate and amend the several acts relating to the village of Honeoye Falls, and to enlarge the powers of the corporation,' passed April 24, 1868," reported in favor of the passage of the same with some amendment as follows:

Section 1, line 1, before the words "An act," insert "chapter 313 of the Laws of 1868, entitled," lines 3 and 4, strike out the words "passed April 24, 1868."

Also with the title amended so it will read, "An act to amend chapter 313 of the Laws of 1868, entitled 'An act to consolidate the several acts relating to the village of Honeoye Falls, to enlarge the powers of the corporation.'"

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
McManus
Chase
Henry
12

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 171, G. O. 133, entitled "An act to permit the board of supervisors of Tompkins county, in its discretion, to compromise, adjust and pay certain claims arising from deficiencies in the infant heir fund," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
McManus
Chase
Henry
12

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 324, G. O. 256, entitled "An act further to amend chapter 590 of the Laws of 1865, entitled 'An act' to incorporate the Porous Plaster Company of the city of New York, as said act was amended by chapter 43 of the Laws of 1880," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
McManus
Chase
Henry
12

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 192, G. O. 149, entitled "An act supplemental to chapter 49 of the Laws of 1878, entitled 'An act in relation to noxious weeds and brush in public highways,'" reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Chase
Henry
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 222, G. O. 177, entitled "An act to amend chapter 277 of the Laws of 1885, entitled 'An act to prevent the obstruction of Racket river and the east branch of the St. Regis river by depositing therein buttings, edgings and debris of saw-mills and other manufactories of wood and imposing a penalty for so doing,'" reported in favor of the passage of the same with an amendment as follows:

Section 1, line 2, after the word eighty-five, insert "entiled an act to prevent the obstruction of Racket river and the east branch of the St. Regis river by depositing therein buttings, edgings and debris of saw-mills and other manufactories of wood, and imposing a penalty for so doing."

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Chase
Henry
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 194, G. O. 151, entitled "An act authorizing the trustees of the village of Union to regulate auctions, hawking and pedling therein," reported in favor of the passage of the same with an amendment to the title by inserting after the word "Union," in line 1, the words "county of Broome."

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Henry
10

For the Negative.

Chase

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 233, G. O. 189, entitled "An act to establish the compensation of public officers in Oswego county," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Chase
Henry
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 309, G. O. 245, entitled "An act to amend chapter 248 of the Laws of 1872, entitled 'An act to authorize the formation, establishing and maintaining of driving park and agricultural associations,' as amended by chapter 609 of the Laws of 1872," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Chase
Henry
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 357, G. O. 277, entitled "An act to provide for the enforcement of ordinances passed by the common council of Long Island City," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Chase
Henry
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill, No. 235, G. O. 191, entitled "An act to amend chapter 148 of the Laws of 1855, entitled 'An act to authorize the election of local officers to discharge the duties of county judge and surrogate in the county of Washington, and to do chamber business,'" reported in favor of the passage of the same, with an amendment as follows:

Section 1, line 2, after the word "fifty-five," insert "entitled an act to authorize the election of local officers to discharge the duties of county judge and surrogate in the county of Washington, and to do chamber business."

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Chase
Henry
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 193, G. O. 150, entitled "An act to authorize the board of commissioners of police of Richmond county to regulate and prohibit the landing at certain points on the north shore of Staten Island of passengers from excursion boats," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Henry
Gordon
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 295, G. O. 229, entitled "An act to amend section 1 of chapter 144, Laws of 1880," reported in favor of the passage of the same with the title amended so it will read,

"An act to amend section 1 of chapter 144 of the laws of 1880, entitled 'An act to amend section 5, title 3 of chapter 291 of the Laws of 1870, entitled An act for the incorporation of villages.'"

Said bill was ordered reported by the following vote :

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Henry
Gordon
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 302, G. O. 238, entitled "An act to regulate the construction and maintenance of eel weirs within the county of Sullivan," reported in favor of the passage of the same with an amendment by striking out in line 2 of section the words "are not," and inserting "shall not be."

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hotchkiss
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Henry
Gordon
12

Mr. Robinson, from the sub-committee of the whole, to which was referred the Senate bill No. 56, G. O. 232, entitled "An act to authorize the trustees of the village of Silver Creek to straighten Walnut creek and to act otherwise to prevent the flooding of the streets and property in said village," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote :

For the Affirmative

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
Chase
Henry
11

Mr. Robinson, from the sub-committee of the whole, to which was referred the Senate bill No. 8, G. O. 299, entitled "An act to amend [section 2 of] chapter 345 of the Laws of 1881, entitled 'An act to amend chapter 82 of the Laws of 1880, entitled 'An act to regulate the location of future burial grounds or cemeteries within the city of Buffalo,'" reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hogeboom
Berry
Liddle
Hall
Budlong
Titus
Cheney
McManus
Henry
11

SIXTH ANNUAL REPORT

OF THE

STATE BOARD OF HEALTH

OF

NEW YORK.

TRANSMITTED TO THE LEGISLATURE MARCH 19, 1886.

ALBANY, N. Y.:
WEED, PARSONS AND COMPANY,
LEGISLATIVE PRINTERS.
1886.

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THE STATE BOARD OF HEALTH OF NEW YORK.

MEMBERS OF THE BOARD.

State Commissioners of Health ; appointed by the Governor and Senate.

ERASTUS BROOKS, West New Brighton, Richmond county.
J. SAVAGE DELAVAN, M. D., Albany. *
GEORGE W. COOKE, M. D., Kingston.

Appointed by the Governor from the Health Commissioners in Cities.

EDWARD M. MOORE, M. D., Rochester.
WOOLSEY JOHNSON, M. D., New York.
ALFRED MERCER, M. D., Syracuse.

Ex-Officio Members.

WM. M. SMITH, M. D., Health Officer of N. Y. Quarantine, S. Island.
JAMES T. GARDINER, Superintendent of State Survey.
DENIS O'BRIEN, Attorney-General.

OFFICERS OF THE BOARD.

DR. EDWARD M. MOORE, *President*, Rochester.
DR. ALFRED L. CARROLL, *Secretary*, New Brighton, Staten Island.
FREDERICK CARMAN, *Assistant Secretary.*

State Superintendent of Registration and Vital Statistics.

DR. ALFRED L. CARROLL, as Secretary of the Board.

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* Deceased.

STATE OF NEW YORK.

No. 83.

IN ASSEMBLY,

March 19, 1886.

SIXTH ANNUAL

REPORT OF THE STATE BOARD OF HEALTH.

STATE OF NEW YORK:

Executive Chamber,
Albany, *March* 18, 1886.

To the Legislature:

I have the honor to transmit herewith the Sixth Annual Report of the State Commissioners of Health, together with appendix and maps.

DAVID B. HILL

REPORT.

To the Hon. DAVID B. HILL, *Governor of the State of New York:*

SIR — To secure the formation of local boards of health and to aid them in the work of protecting the lives and health of the citizens in their respective localities has always been held as a work of primary importance by the State Board of Health. During the past year a large number of new boards of health have been formed, but the increase in number is even of less importance than the improvement in their working power, due to the gradual perfection of the law under which they work.

As defects in this law became apparent, recommendations have been made to the Legislature for amendments. The law of its action as well of the being of the State Board of Health was passed in 1880. The board then formed was in many respects an entirely new organization, and so also was the general system of health machinery. A State system of registration of births, deaths and marriages had previously existed under the general supervision of the Secretary of State, and to this established but desultorily performed work, the State Board succeeded as far as its supervision related, a central bureau of registration being added. But this general plan was not only new to the State but largely original as a system. Its general plan was most admirable. Prior to its adoption the system had been followed of caring for the public health by local laws, conferring on officers of counties, cities, villages, and towns authority in their respective localities. The new system, not deviating widely from what had become established usage, retained the executive powers with the localities, suppressing even the authority of counties, and recognizing only towns, cities and villages, and combining them all through the medium of one central board which should stimulate them to action, be advisory resource, and in case of the last necessity, only by mandatory action.

As might have been anticipated, points of weakness and ambiguity in the law were developed in the experience of its operation, and in 1885 a new law was prepared embodying all the salient features of the old, and introducing such new provisions as had been shown to be necessary both as regards the perfection of registration of vital statistics and as regards the sanitary powers of local boards. The efficiency of the work after the first year's trial demonstrated a decided increase in the necessity and value of the law of 1880, and its later amendments.

The increased activity of the local boards, as regards sanitary work, is felt in the larger demand upon the central office for advice and assistance. To render this is one of the important duties of the State Board. The personnel of the local boards is constantly changing, new elective officers taking the places of those before in service, and bringing persons unfamiliar with the duties of sanitary administration into office. There is consequently constant inquiry and correspondence regarding the routine of work and the most elementary questions of sanitary requirements. It is but natural that difficulties should constantly arise, and appeals be made to the State Board when necessary. This work of sanitary correspondence with the local boards, giving them the accumulated experience of the State Board in sanitary matters, has already become one of the most important features of the central sanitary service.

Besides questions that can be met by correspondence or personal advice, there are many which can only be answered by a local study of the conditions that may exist through representatives of the central board, who are special experts in the matter at fault. An important element in the sanitary machinery of the State is the force of sanitary inspectors, engineers and chemists which the central board requires to meet the frequent emergencies of educated investigation. This is the most economical way in which the State can supply to every locality the benefit of the best expert advice in matters affecting the public health. The reports of the different committees show how extensively this work has been done during the year. It would be a matter of economy, in the judgment of the Board, if this element of its work and the resources at its command were still further enlarged, as far as its assistance in chemical analysis is concerned. The central office needs at its command a well-furnished laboratory for the investigation of potable waters, foods, drugs, and in regard to which there is a steady call for advice.

The perfection of the State system of registration of vital statistics is of importance scarcely second to that of the formation and instruction of local boards of health. The development of this work has required years of constant effort, and the registration is yet far from complete. Progress toward this work is, however, steady, and the committee on vital statistics report a large increase in the number of returns received over previous years. Every effort will be continued to make it uniform and thorough. It is already so perfect in many places as to form a reliable basis for the investigation of the causes of preventable disease.

The monthly bulletin presents a summary of the mortality of the State, including not only the returns that are received from the three millions of the population of the State that are under the Board's jurisdiction, but also of most of the large cities which are by law exempt from its responsible charge. The prevalence of certain classes of preventable disease in particular localities, as shown by these bulletins, has enabled the Board to call attention of the local authorities to the special dangers existing within their jurisdiction, and to advise them as to the general character of the remedies to be applied. It will appear by a study of the bulletins which will be found accompanying this report, and from the comments upon it of the committee on vital statistics, that a record is made of a little more than 80,000 deaths in the State, and that there are, besides these, some 7,000 or 8,000 more which are accounted for on the recording registers, but not printed in this monthly issue. Assuming the probable mortality of the State to be 100,000, it appears that registry has been secured of about nine-tenths of all that occur. By stimulating the organized boards to more perfect work and securing the organization of a considerable number of boards, not yet effected in the more retired parts of the State, further completeness will be secured. The routine of registration is found of secondary importance in keeping up the activity and vitality of local health organizations.

The character of the prevailing diseases in the State during the past year is fully set forth in the report of the Secretary, in the appendix, and a description is given of the measures taken by the State Board, regarding small-pox and other epidemics threatening the State. The power of vaccination in preventing the spread of small-pox has been thoroughly demonstrated during the past year. Although at different intervals since March, twelve cases of small-pox have been reported to the State Board of Health, from localities where, under ordinary circumstances, the contagion would have been almost certain to spread widely, in only two instances outside of the cities excepted from the operations of the general act, has there been any extension beyond the initial focus. One of these was a nurse who supposed herself protected by a long passed attack of variola and who was not re-vaccinated.

In marked contrast to such fortunate results was the epidemic raging in Montreal among the un-vaccinated. There can be little doubt that the State was saved from a severe epidemic by the great activity of the local and State sanitary authorities. The thorough vaccination practiced will have an important effect in protecting from small-pox for a number of years, and the successful resistance of the invasion of the Montreal epidemic adds greatly to the confidence in the security which may be obtained by thorough sanitary work. The fear of approaching cholera has awakened renewed interest in questions connected with public sanitation. In many places this agitation will not, however, be allayed, until important sanitary reforms have been executed.

SEWERAGE.

Works of sewerage and drainage are greatly needed in many localities. The execution of such works has been retarded by the great cost of many sewerage plans and by the scepticism which still exists among many people, as to the importance and value of removing all sewage and foul wastes from the neighborhood of human habitation.

Another hindrance to the progress of sewerage in this State is the difficulty of disposing of sewage without creating a nuisance. The so-called separate system of small-pipe sewers, carrying sewage only with automatic flushing tanks, recommended itself to the Board at an early day on account of its small cost and superior cleanliness. The experience of the Board during the past year has accorded with that of previous years in respect to the adaptability of the separate system to the greater part of the small villages and cities of the State.

The working of this system in places where it has been tried for a number of years has been re-examined by direction of this Board during the past year, and the results are given in the report of the committee on drainage, sewerage and topography. We commend this report to the consideration of local authorities in this State who are considering the question of sewerage and drainage. The Board has constantly been called upon for expert advice and assistance from localities requiring aid, that they could not otherwise secure, in investigating the prevalence of disease. While the want of public sewerage has proved one of the most important factors in the development of disease, the want of properly devised house drainage in sewered towns is often a potent cause of illness. The importance of having municipal plumbing regulations and a thorough inspection by skilled and responsible officials becomes yearly more apparent. It is to be hoped that this system of municipal regulations for plumbing which has proved so successful in New York and Brooklyn will be widely extended over the State.

DRAINAGE.

In many large districts the health of thousands of people is seriously impaired by the saturation of the soil. Not only does this refer to the marshes from which miasms arise and are borne over the surrounding tracts, but to regions where the ground-water is so high as to produce damp cellars and damp soil around the dwellings.

The diseases fostered by these conditions,— malaria, rheumatism, consumption, cerebro-spinal meningitis,— and indirectly others, are rife in many populous localities.

In a number of places where abandoned canals belonging to the State were the cause of complaint, drainage works have been executed with the result of producing marked improvement in the health of the localities. The plans made by the Board during the past year have not been fully carried out, but will doubtless be completed during the next season.

There are various great swamps varying from one to several thousand acres in extent, and situated in many counties both in the southern, central, western and northern parts of the State, which are exerting a most harmful influence over the people who live about them. They contain in the aggregate a goodly number of acres, which, if reclaimed, would be among the richest and most fertile lands of the State. Under the present general Drainage Act it has proved impossible to secure the drainage of these tracts. After careful investigation of the causes of the failure of most efforts which have been made for extensive drainage in the State of New York, the Board recommended to the last Legislature the passage of an act, a copy of which is printed in the fifth annual report. It involved the principle of loaning State aid in the construction of the large outfall channels which are the essential basis of any system of extensive drainage. The aid loaned by the State was to be repaid with interest by the localities, during a term of years sufficient to enable the land to become reclaimed and productive. The act recommended did not become a law, but the Board is confident that little or nothing can be done to reclaim the great swamps of the State until such an act is passed.

WATER SUPPLY.

The experience of the past year has added new proof that one of the gravest causes of preventable disease in this State is the drinking of impure water. The protection of private sources of water supply can only be accomplished by educating the owners of wells, springs and their surroundings in a knowledge of the watchfulness required to prevent the contamination of the house supply. To this end by investigations, by letters and by reports to local health authorities the State Board is endeavoring to awaken the people and instruct them as to the means necessary to prevent the pollution of potable waters.

The experience of the Board having shown that existing laws were not adequate to secure the thorough sanitary protection of public water supplies, an act was recommended to the last Legislature, which became a law, authorizing the State Board to make rules and regulations for the protection of any public water supply, which rules should have the force of law when approved by the judge of the county in which the water supply was located. Under this law rules were made for the sanitary protection of the water supply of the city of Rochester and the village of Fredonia. The report of the executive board of Rochester shows that the result has been a most effective protection from sources of contamination that seriously menaced the purity of their supply. It does not appear that the maintenance of these regulations has caused any hardship to property-holders upon the water-shed, but on the contrary, has resulted in a positive sanitary benefit to them.

In investigating the occurrence of preventable sickness in localities especially afflicted, in determining the causes operating, and in devising proper remedies for the insanitary conditions discovered, the Board requires the aid of expert skill of the highest order and the widest experience. Combined sanitary and engineering perception and knowledge is needed to detect the various dangers which threaten the public health and to give wise and efficient advice to suffering localities.

The experience required can only be obtained through years of actual investigation of a great variety of cases, such as come before a central board. It is, therefore, of the greatest importance, for reasons of public health and general economy, that the State Board of Health should be able to retain in its employment men of scientific attainments, whose accumulated experience in the solution of difficult sanitary questions becomes of inestimable value to localities needing sanitary advice.

The Board has thus far fortunately been able to command the services of such men to the extent of its limited means of remuneration; and so far as its funds have gone, expert advice and assistance have been gladly given to all localities needing help. The pressure upon the Board, however, for expert service in investigating the occurrence of disease and devising remedies for prevention has been much greater than its ability to respond. It is the duty of the Board to state that during the year many localities have needed expert help which they were not themselves able to secure, and which the Board for want of means could not supply. We feel sure that larger means at the disposal of the Board would result in an improvement in the public health of many localities that the Board is not now able to help except in words of general advice.

EDWARD M. MOORE, M. D.,
President.
ERASTUS BROOKS.
WOOLSEY JOHNSON, M. D.
ALFRED MERCER, M. D.
GEORGE W. COOKE, M. D.
DENIS O'BRIEN,
Attorney-General.
WILLIAM M. SMITH, M. D.,
Health Officer of the Port.
ALFRED L. CARROLL, M. D.,
Secretary.

REPORT

OF

EXECUTIVE AND FINANCE COMMITTEE.

REPORT

Of the Exeutive Committee on the Work and Expenditures of the Board from its Organization to the Close of its last Fiscal Year, September 30, 1885.

ORGANIZATION AND DUTIES.

On the 29th of May, 1880, the State Board of Health was organized and at once set about the discharge of the extensive range of duties specified in its organic law, chapter 322 of 1880. These duties are thus stated:

To take cognizance of the interests of life and health among the people of the State.

To make inquiries in respect to the causes of disease, especially epidemics.

To investigate the effects of localities, employments and other conditions upon the public health.

To supervise the State system of registration of births, marriages and deaths, and the registration of prevalent diseases.

To prepare forms for obtaining and preserving such records.

To insure the faithful registration of the same in the several counties and in the central bureau of vital statistics at the capital of the State.

To prepare forms with proper coupons attached for, and prescribe rules regarding, the issue and use of transfer permits to be issued by local boards of health for the transportation of dead bodies for burial beyond the limits of the county where the death occurs.

To secure compliance with these rules on the part of every common carrier or person in charge of vessels, railroad trains or vehicles, and

To examine and report upon nuisances affecting the security of life and health in any locality where the people, unable to gain redress from their local officials, seek the aid of the State Board of Health by petition to the governor.

Emphasis was given to these duties by chapter 431 of 1881, chapter 351 of 1882, and chapter 270 of 1885.

APPROPRIATIONS AND EXPENDITURES.

To commence this important sanitary undertaking the Legislature voted	$15,000 00
Additional appropriations have been made as follows:	
For year from October 1, 1881, to September 30, 1882.	20,000 00
For year from October 1, 1882, to September 30, 1883.	15,000 00
For year from October 1, 1883, to September 30, 1884.	20,000 00
For year from October 1, 1884, to September 30, 1885.	20,000 00
Total	$90,000 00

The expenditures of the board for the above five years and four months of its existence, as shown in detail in its six reports, aggregate	$89,123 98
Or an average annual expenditure of	$16,710 72

Subtracting the expenditures from the appropriations, there is found to be an unexpended balance to the credit of the Board on October 1, 1885, of $876.02. The Legislature appropriated for the fiscal year ending September 30, 1886, the sum of $20,000, so that for the current year to sustain its work the Board has this legislative appropriation of $20,000 plus $876.02 of unexpended balance at the end of the last fiscal year, or $20,876.02.

PUBLIC SERVICE RENDERED.

The first three reports of the Board give in concise form the results of its effort to call into existence, hampered as it was with imperfect and ambiguous laws, local boards of health in all the towns, villages and cities of the State, numbering over 1,300, and to put them in communication with the central office. The service being new, it was difficult to induce hearty compliance with the law and co-operation in a work essentially in the interests of the people.

The law imposed a two-fold duty on these boards (and upon the State Board the duty of enforcing it) first concerning the registration of vital statistics, and secondly in reference to the sanitary security of the community. The efforts of the State Board of Health were accordingly put forth in both of these directions. Forms for certificates of births, deaths and marriages, for burial and transmit permits, as well as for registers in which to record vital statistics, had to be prepared and sent as models to every local board of health. Information how to record these vital records and how and when to forward the original certificates to the State bureau had also to be given and arrangements made with a printer to furnish these registry equipments at the lowest possible rate. Models for sanitary rules and regulations for local boards of health had also to be prepared, involving the consideration of the wants of these local boards as well as their legal powers. As each local board organized, estimates of the registry supplies needed, based upon population, had to be prepared and sent, so that some correct idea might be formed of the expense to each town, village or city. It is needless to say that this preliminary work entailed a vast correspondence as well as the issuance of over fifty different printed circulars of information. In addition to this numerous sanitary investigations were undertaken, epidemics grappled with and stamped out, and the people instructed as to the connection between insanitary conditions and disease, suffering and financial loss.

The position the Board attained at the end of its third year of public service was well summed up in the words of the late secretary, Dr. Elisha Harris.

"Called into existence by the Legislature of 1880, after twenty or more of the States had founded some form of central sanitary service, and after the Nation had gratefully witnessed upon a vast scale the proof that sanitary protection and vigorous health in time of war are equivalent to the strength of armies, the State Board of Health of New York organized its methods of public service on the basis of a broad reliance upon the share and enlightened concern which the people would have in this work and the objects of health laws. The expectations of the Board in this particular are being abundantly realized, for the people are concerned, and in their primary civil divisions of townships, cities, villages and school districts, are giving practical effect to whatever this Board has undertaken to do in compliance with the purposes and powers defined in the statutes relating to health.

"Though not wanting in certain kinds of authority, the policy of this department has mostly been directly the converse of centralization or dictation. From first to last the service has been chiefly one of studious instruction and guidance, the co-ordination of means to practical ends, bringing results of investigation of subjects of general importance to the public health to bear upon the sanitary welfare of the particular communities which seek the aid of the Board."

A review of the work of the last two years, when the results of earlier efforts began to manifest themselves and registration had commenced in the Central Bureau, will afford some idea of the extent of the Board's public service to the State.

The work of the year ending September 30, 1884, may be briefly summarized:

IN THE DEPARTMENT OF VITAL STATISTICS.

1. During this year for the first time registration in its three branches, births, marriages and deaths was steadily maintained, and special clerks assigned for each branch.

2. On the death of Dr. Harris, it was found, that the registration in all its branches was nearly two years behind, owing to the fact that the main efforts of the secretary had been directed toward the then more important work of explaining the law, enlightening the people and inducing organization of local boards. How to write up these accumulated arrearages without enlarging the office staff till such enlargement became imperative was then a serious question. It was finally decided to transfer the regular clerks to current work, and to employ a number of temporary assistants to bring up the arrearages, paying them by the piece. This was done, and a beginning made in March, 1884.

3. A monthly bulletin of mortality was also issued, the first number appearing in April, so that while arrearages were being recorded for the legal value they might have in the settlements of estates, the current mortality of places was set before the people as the best argument of the need and value of sanitary work.

4. Coincident with the issuance of the monthly bulletin became the need of an office mailing list, prepared in such manner as on the one hand to embrace all parties who ought to receive the Board's publications regularly, and on the other to obviate the long and tedious process of pressing into service all the clerks in the office for the purpose of doing this work by the pen. The addresses were prepared in sheets printed, perforated and mucillaged like postage stamps, so that nothing further is needed in despatching any publication than to give the office boy the regular number of sheets to paste addresses on as he would postage stamps.

5. The preparation of a tabulated nomenclature of causes of death, including names of 500 diseases, in English, French, German and Latin. This is designed for use of health officers, registry clerks and physicians, to secure uniformity in registration.

IN THE DEPARTMENT OF SANITARY WORK.

During the year there was a large demand upon the Board for sanitary service requiring the employment of expert aid; and the report shows the following record:

1. Investigation of pleuro-pneumonia in Flatbush where it was alleged cows suffering from this disease were kept for their milk supply and their flesh sold for food after death.
2. Investigation of the epidemic of diphtheria at Lansingburgh.
3. Issuance and widespread distribution of a sanitary memorandum of duties in the presence of a threatened epidemic of cholera.
4. Examination of the suitability of using an abandoned burial-ground for the erection of a school-house at Port Jervis.
5. The preparation of a law to protect the purity of potable water supplies, framed in response to constant appeals for aid which could not be responded to without additional legislation.
6. The maintenance of an inspection of offensive businesses in Kings and Queens counties, the dissemination of information concerning them, and the public accusation of such as were found to be violating the governor's orders.
7. The investigation of alleged cholera at Hoosick Falls.
8. The investigation of trichinosis at Arietta.
9. The preparation of plans for the drainage of the Chemung canal prism at Horseheads and supervision of work.
10. Investigation of insanitary conditions at Yorktown.
11. Investigation of insanitary conditions at Castleton.
12. Investigation of insanitary conditions at Oneonta.
13. Investigation of insanitary conditions at Valatie.
14. Investigation of insanitary conditions at Port Byron.
15. Investigation of insanitary conditions at Clifton Springs.
16. Investigation of insanitary conditions at Rochester, Ulster county.
17. Investigation of condition of the abandoned Chemung canal north of Elmira city line. Plan prepared for its drainage.
18. Investigation of the insanitary condition of Havana, and preparation of plan for its improvement, including drainage of canal prism.
19. Investigation of large swamp areas, and suggested plan for their sanitary drainage.
20. Investigation of insanitary condition of Saratoga Springs, and suggested plan for its improvement.

21. Investigation of the insanitary condition of Martinville and Beaver creek district, Albany, and plan for remedy.

22. Investigation and report upon insanitary condition of Port Richmond, and suggested remedies.

23. Investigation of epidemic of typhoid fever at Bath, Steuben county.

24. Investigation of village of Malone with reference to its need for sanitary drainage, and report thereon.

25. Investigation of the sewerage of the city of Kingston, and report thereon.

26. Investigation of nuisance at Sucker brook, Canandaigua, and remedies therefor.

27. Investigation of the summit level of the Chemung canal, and plan for its drainage.

28. Investigation of Hoosick Falls, and plan proposed for its drainage.

29. Investigation of Ogdensburg, and its need of sewerage, with report thereon.

30. Investigation of sanitary condition of Syracuse, with report thereon.

31. Further investigation and conclusion of the examination of the alleged nuisances at Glen Cove, and report thereon.

For year ending September 30, 1885, the following is a summary of the work accomplished :

I. VITAL STATISTICS.

(1.) The work of bringing up arrearages by means of temporary assistants, which was begun in March of the previous year, has been continued, and 51,800 certificates of births, deaths and marriages recorded in this way, besides the preparation, with dictionary, alphabetical precision, of four indexes, each index containing 21,000 names, with reference to volume and page of register in which particulars regarding every name may be found.

(2.) A clerk has also been kept busy on the current Death Register, another on the Birth Register, and a third on the Marriage Register, so that no further arrearages have been allowed to accumulate.

(3.) The Bulletin of Mortality has been issued monthly, and has been growing in fulness and accuracy. Several places, notably Troy and Cohoes, where suspicion as to the completeness of their mortality returns had been entertained, were visited by the Assistant Secretary, the records of cemeteries as to interments taken and compared with the actual return of deaths. The discrepancies thus ascertained formed the basis of correspondence with local boards health that has resulted in reforms beneficial to sanitary service.

(4.) The weakness of the law providing for registration having frequently been demonstrated in the efforts of the Board to induce local registration, an effort was made during the past year to remedy existing defects. It was found necessary to frame an entirely new law,preserving all the salient features of the old, and introducing such new provisions as the experience of the Board seemed to warrant. This resulted in the passage of chapter 270 of the laws of 1885, by which local boards have since worked and are now satisfactorily working. The main features of the new law are:

1st. The placing of the obligation to return to the local registrar certificates for registration

(a) In the case of births, on the parent or guardian,

(b) In the case of marriages, on the groom,

(c) In the case of deaths, upon the undertaker, or person having charge of the body.

2d. The making more definite the powers of local boards of health, and giving to the State Board authority to call upon them to convene whenever it is considered necessary in the interests of the public health.

(5.) A form for the recording of still births has been prepared and sent to every local board of health, so that the number of such occurring in any locality will be preserved for the sanitary information conveyed.

(6.) Two new record books have been devised and put in operation; (a) one containing, alphabetically arranged, an account with every local board of health in the State, showing the monthly receipts of certificates of births, deaths and marriages and still births; (b) The other containing the personnel of every local board of health, and the post-office address of the different members.

These form the two working factors in the bureau; the one shows the boards that are delinquent, and the other their post-office addresses, so that an active correspondence may be maintained to bring them up to the proper standard.

2. SANITARY WORK.

During the year there has been a considerable tax on the engineering and sanitary resources of the board. The following are among the chief works undertaken:

1. Investigation of the insanitary condition of the Albany basin, and plan for its improvement.
2. Preparation of rules and regulations for the protection of the purity of the water supply of the city of Rochester.
3. Investigation of and report upon epidemic of diphtheria at Sandy Hill, involving an engineering examination of the locality and chemical and biological examination of the water supply.
4. Preparation and approval of further plan for the drainage of the Chemung canal prism in the village of Havana.
5. Investigation of the defilement of the potable water supply of the village of Fredonia, and the preparation of rules for the preservation of its purity.
6. Investigation of and report upon the drainage of a swamp in the town of Westchester, near Clason's Point.
7. Preparation of a further plan for the drainage of the prism of the abandoned canal, between the villages of North Elmira and Pine Valley.
8. Investigation of the drainage of the new court-house in the city of Lockport, and report thereon.
9. Investigation of and report upon Elmira Reformatory sewer, and plan for its construction.
10. Report upon the sewerage of the village of Warsaw, and plan for the disposal of its sewage.
11. Investigation of and report upon a malarial nuisance in the town of Florida, Montgomery county.
12. Investigation of and report upon a malarial nuisance at Fairport.
13. Investigation of and report upon the sewerage of Middletown, Orange county.
14. Investigation of and report upon the insanitary condition of Canajoharie.
15. Investigation of and report upon the insanitary condition of Johnstown.
16. Investigation of and report upon malarial conditions at Harrison, Westchester county.

17. Investigation of and report upon a slaughter-house nuisance at Havana.

18. Investigation of and report upon an open sewer nuisance at Cohoes.

19. Investigation of and report upon the insanitary conditions at Rhinebeck.

20. Preparation of plan for the drainage of the abandoned canal at Rome.

21. Preparation of plan for the drainage of the Binghamton Insane Asylum.

22. Investigation, by order of the governor, of a drainage nuisance at Mt. Vernon and preparation of plans for its abatement.

23. Examination of sources of pollution of the water supply of the city of Cortland, and suggested remedies.

24. Various inspections of the condition of factories on Newtown creek and vicinity.

A large correspondence with local boards to induce local action in the removal of nuisances which they were entirely able to deal with unassisted, and various warnings to local boards to institute general vaccination and revaccination in their respective localities to protect the State from the small-pox epidemic then raging in Canada, which has been productive of such good results that the State has been saved from its ravages.

Not over two-thirds of the local boards of the State required by law are making complete returns of their vital statistics to the central bureau. When complete returns are received from all parts of the State, at least three additional recording clerks will be needed for the mere clerical work of registering the records.

SPECIAL WORK INTRUSTED TO THE STATE BOARD OF HEALTH.

Administration of the Law to Prevent the Adulteration of Food and Drugs.

On May 28, 1881, the Legislature passed the law known as chapter 407 of 1881, entitled "An act to prevent the adulteration of food and drugs," which required the State Board of Health within thirty days thereafter to meet and adopt measures for its enforcement and prepare rules and regulations for collecting and examining articles of food or drugs, and for the appointment of necessary inspectors and analysts.

To enter upon this new field of duty, the Legislature voted the inadequate sum of $10,000 and failed to make any further appropriation for the three subsequent years. This disproportion of means to the ends sought will be the more apparent when it is considered that but for *one* branch of this work, that relating to dairy products which the Legislature of 1884 placed under a separate commission, the sum of $30,000 was voted and $50,000 the following year, while for the entire field, during a period of four years from May 28, 1881 to June 13, 1885, but $10,000 was appropriated.

The Board met within the time prescribed by law and decided, as a first step in carrying out the provisions of the act, to make a careful examination of the food and drugs sold in different parts of the State in order to ascertain the nature and extent of the adulteration practiced; also to examine the methods of analysis in use for the detection of such adulterations, and to have presented for the use of those on whom the enforcement of the act would finally devolve the best literature on the subject. The administration of the law was referred to the sanitary committee and the following analysts elected:

Prof. G. C. Caldwell, Ph. D., Cornell University.
Prof. A. H. Chester, Ph. D., Hamilton College.
Prof. E. G. Love, Ph. D., New York.
Prof. S. A. Lattimore, Ph. D., Rochester University.
Prof. Wm. H. Pitt, M. D., Buffalo.
Prof. F. E. Englehardt, Ph. D., Syracuse.

Also two inspectors to collect samples.

The work was divided up among the chemists as follows:

Animal food.

I. Milk fresh and condensed. Undertaken by C. F. Chandler, Ph. D., chairman of the committee.

II. Butter, dairy and artificial, cheese, lard, olive oil and fruit essences. Assigned to G. C. Caldwell, Ph. D., Cornell University, Ithaca, N. Y.

III. Canned meats and animal foods, fresh, smoked, salted, canned, extracts and essences of meat and fish, gelatine and isinglass. Assigned to A. H. Chester, Ph. D., Hamilton College, Clinton, N. Y.

Vegetable food.

IV. Cereals and the products and accessories of flour and bread foods, wheat, rye, barley and rice, oatmeal, cornmeal, sago, tapioca and leguminous preparations, special artificial foods for infants and invalids, baking powders, cream tartars, bicarbonate of soda, bicarbonate of ammonia, alum powders and the "alum question." Assigned to E. G. Love, Ph. D., New York.

V. Canned fruits and vegetables, preserves, vinegar, pickles, mustard, ginger, spices, antiseptics employed in preserving, glazing and enamel as affecting food articles. Assigned to S. A. Lattimore, Ph. D., University of Rochester, Rochester, N. Y.

VI. Sugars, syrups, molasses, glucose, confectionery, honey and soda-water syrups. Assigned to W. H. Pitt, M. D., Buffalo, N. Y.

VII. Tea, coffee, cocoa Assigned to S. A. Lattimore, Ph. D., University of Rochester, Rochester, N. Y.

VIII. Wines, beers, spirits and cordials. Assigned to F. E. Englehardt, Ph. D., Syracuse, N. Y.

Drugs.

IX. Crude vegetable and animal drugs. Assigned to F. Hoffman, Ph. D., New York.

X. Pharmaceutical chemicals and their preparations. Assigned to F. Hoffman, Ph. D., New York.

XI. Gelatine and sugar-coated and compressed pills of quinine. Assigned to G. C. Caldwell, Ph. D., Cornell University, Ithaca, N.Y.

XII. Granular effervescent salts, fluid citrate of magnesia, seidlitz powders. Assigned to W. G. Tucker, M. D., College of Pharmacy, Albany, N. Y.

The inspectors traveled over the State collecting samples, which were carefully labeled, numbered, recorded and sent to the proper analyst, and in the Second, Third and Fourth Reports are given elaborate reports of the work done, including tables of the articles analyzed, and the results of the analyses, as well as detailed statements of expenditures.

Numerous cases were prepared for prosecution, complaints made, the sellers of adulterated articles arrested, indicted and held for trial.

In regard to milk, that sold by two hundred and fifty different parties was examined, and exhaustive reports written, on milk fresh and condensed; the effect of various kinds of feed upon milk, the brewer's grain question, with microscopic examination and illustrations of cream, pure milk, skimmed milk and unhealthy milk. Cheese and its adulterations were also examined.

Law to Regulate the Standard of Illuminating Oils and Fluids.

On the 6th of June, 1882, the above act was passed. Like the law to prevent the adulteration of food and drugs, its administration was placed upon the State Board of Health, and an appropriation of $5,000 made for its enforcement.

Its execution was also assigned to the Sanitary Committee of the Board, and the work and expenditures will be found set forth in great detail in the second, third and fourth reports of the Board.

The law having fixed the legal flash test for oil at 100 degrees. Fahrenheit, according to the instrument and methods approved by the State Board of Health, it was incumbent upon the Board to determine upon a proper tester and methods by which oils could be examined.

Accurate details of the examination of every tester in use, and of the steps which led to the adoption of the New York State tester, are fully set forth in the published reports.

The oils sold in the State were fully examined, and startling facts disclosed, shedding much light on the origin of kerosene horrors. An oil was found in the market that flashed at the ordinary summer temperature of the laboratory. Several cases were prepared for trial, and a notable conviction secured in Batavia of an agent who had been flooding western New York with a dangerous illuminating fluid. The reports give the details of the work done, the flashing point of the various oils examined, and the efforts, successful and unsuccessful, to secure the indictment and punishment of violators of the law. The result has been to rid the market of a large part of the dangerous illuminators with which it had been previously flooded.

Note.

The last Legislature appropriated $10,000 to administer both the food and drug and oil laws, and three chemists of the Board are actively engaged in this work.

Their reports will be ready for the present Legislature.

Beers and Malt Liquors.

The last Legislature also imposed upon the State Board another specific duty: to examine all the beers and malt liquors brewed or distilled in this State, appropriating $3,000 for the work. Samples representing the product of every brewer in the State have been collected, to the number of 500 and analyzed. A report on the entire subject is being prepared and will be ready for the present Legislature.

The above summary of the Board's work is respectfully submitted, showing, with entire confidence, that upon close examination it will be found to compare favorably both as to efficiency and economy with any departments of the State's service.

ERASTUS BROOKS,
Chairman.

FINANCIAL EXHIBIT.

Financial exhibit for year, October 1, 1884, to September 30, 1885, total, $25,738.05. Made up as follows :

For members' traveling expenses	$1, 113 37
For miscellaneous expenses	3, 995 84
For expert services	3, 910 96
For salaries and wages	13, 056 25
For expressage and telegraphing	230 19
For printing and stationery	3, 073 37
For library	103 96
For petty cash	99 11
For furniture	155 00
Total	$25, 738 05
Balance unexpended October 1, 1884	$6, 614 07
Special appropriation for year	20, 000 00
	$26, 614 07
Deduct above expenses	25, 738 05
Leaving a balance October 1, 1885, of	$876 02

Traveling and Necessary Expenses of Members.

1884.			
Oct.	18.	Erastus Brooks, per itemized account	$96 43
Nov.	15.	James T. Gardiner, per itemized account	15 00
	20.	J. Savage Delavan, per itemized account	10 60
Dec.	9.	James T. Gardiner, per itemized account	24 55
	17.	Alfred Mercer, per itemized account	52 71
	17.	Alfred L. Carroll, Secretary, per itemized account	36 85
	25.	James T. Gardiner, per itemized account	43 57
	25.	Dr. Edward M. Moore, per itemized account	32 40
	29.	George W. Cooke, per itemized account	35 50
	30.	Erastus Brooks, per itemized account	50 95
1885.			
Jan.	29.	James T. Gardiner, per itemized account	13 92
Feb.	17.	Wm. M. Smith, per itemized account	25 90
	28.	Wm. M. Smith, per itemized account	11 50

1885.			
Apr.	7.	Erastus Brooks, per itemized account......	$35 55
	16.	James T. Gardiner, per itemized account..	16 60
	20.	E. M. Moore, per itemized account........	36 68
	28.	Woolsey Johnson, per itemized account...	31 70
May	11.	James T. Gardiner, per itemized account..	21 16
	23.	James T. Gardiner, per itemized account..	17 35
	23.	George W. Cooke, per itemized account...	30 49
	15.	Fred'k Carman, per itemized account... ..	9 40
	21.	James T. Gardiner, per itemized account..	23 00
June	4.	Alfred L. Carroll, per itemized account....	6 45
	29.	James T. Gardiner, per itemized account..	17 30
July	2.	Erastus Brooks, per itemized account......	59 38
	7.	George W. Cooke, per itemized account ...	41 92
	7.	J. Savage Delavan, per itemized account...	13 40
	11.	Alfred L. Carroll, per itemized account....	5 00
	17.	J. Savage Delavan, per itemized account...	24 01
	20.	Fred'k Carman, per itemized account	19 08
	27.	George W. Cooke, per itemized account...	29 80
	28.	Alfred L. Carroll, per itemized account....	19 26
Aug.	6.	Alfred L. Carroll, per itemized account....	19 16
	25.	Edward M. Moore, per itemized account...	35 95
	25.	Dr. Alfred Mercer, per itemized account...	39 58
Sept.	29.	George W. Cooke, per itemized account...	24 36
	29.	Erastus Brooks, per itemized account......	86 91
			$1, 113 37

EXPERT SERVICES.

1884.			
Oct.	14.	O. S. Wilson, services as engineer........	$170 00
	14.	Arthur Hollick, services as sanitary inspector..............................	10 00
	26.	Horace Andrews, services as sanitary engineer	180 00
Nov.	5.	Arthur Hollick, services as sanitary inspector	20 00
	30.	A. D. Lake, report on enteric fever....	10 00
Dec.	11.	Horace Andrews, services as sanitary engineer	200 00
	16.	O. S. Wilson, services as sanitary engineer.	270 00
	17.	O. S. Wilson, services as sanitary engineer.	180 00
	20.	L. McLean, services examining cow stables..	50 00
1885.			
Jan.	5.	Willis G. Tucker, analysis of cheese and water	97 20
	8.	Arthur Hollick, services as sanitary inspector	10 00

1884.				
Jan.	15.	Horace Andrews, services as sanitary engineer	$150	00
	15.	P. C. Curtis, M. D., medical inspection	5	00
	15.	O. S. Wilson, C. E., services as sanitary engineer	80	00
	29.	O. S. Wilson, C. E., services as sanitary engineer	140	00
Feb.	5.	Horace Andrews, services as sanitary engineer	150	00
Mar.	10.	O. S. Wilson, services as sanitary engineer.	200	00
	10.	Horace Andrews, services as sanitary engineer	150	00
April	2.	F. C. Curtis, medical inspection	5	00
	7.	O. S. Wilson, C. E., services as sanitary engineer	180	00
	7.	Horace Andrews, C. E., services as sanitary engineer	150	00
	28.	O. S. Wilson, C. E., services as sanitary engineer	130	00
May	5.	W. G. Tucker, water analyses	35	00
	5.	Horace Andrews, C. E., services as sanitary engineer	70	00
	25.	O. S. Wilson, C. E., services as sanitary engineer	153	00
	25.	Horace Andrews, services as sanitary engineer	150	00
June	4.	Richard Prescott, sanitary engineering	30	00
	19.	Horace Andrews, sanitary engineering	80	00
	7.	James T. Gardiner, sanitary engineering	127	50
	7.	Arthur Hollick, sanitary inspector	30	00
	20.	Wm. Hailes, M. D., biological examination of waters per list	313	26
	23.	F. C. Curtis, medical investigator	10	00
Aug.	3.	Horace Andrews, sanitary engineering	5	00
Aug.	17.	James T. Gardiner, consulting engineer	195	00
Sept.	11.	Horace Andrews, sanitary engineer	20	00
	25.	James T. Gardiner, consulting engineer	150	00
	25.	F. C. Curtis, M. D., medical inspector	5	00
			$3, 910	96

Miscellaneous Expenses.

1884.				
Oct.	14.	O. S. Wilson, expenses	$66	62
	14.	Arthur Hollick, expenses	5	60
	14.	I. L. Carman, engrossing 8 sheets of death certificates and 47 of births	55	00
	14.	Engrossing 21 certificates of births	21	00

1884.			
Oct.	16.	H. Batchelder, engrossing 88 sheets of death certificates	$88 00
	26.	Horace Andrews, expenses	17 53
	31.	Brace M. Gallien, 125 sheets births	125 00
Nov.	1.	Anna L. Mattimore, 96 sheets deaths	96 00
	5.	Arthur Hollick, expenses	12 30
	15.	I. L. Carman, 30 sheets births	30 00
Dec.	1.	Howard Batchelder, 96 sheets deaths	96 00
	1.	Brace M. Gallien, 110 sheets death	110 00
	1.	Anna L. Mattimore, 75 sheets deaths	75 00
	1.	Anna L. Mattimore, typewriting	22 20
	1.	I. L. Carman, 20 sheets births	20 00
	11.	Horace Andrews, expenses	24 86
	15.	I. L. Carman, 30 sheets births	30 00
	16.	Frederick Carman, expenses	6 05
	17.	O. S. Wilson, expenses	49 36
	17.	O. S. Wilson, expenses	30 56
	17.	Howard Batchelder, 16 sheets deaths	16 00
	29.	J. N. McCormack, subscription to conference of State Board of Health, Washington,	10 00
	29.	George H. Robie, assessments to investigate disinfectants	50 00
1885.			
Jan.	2.	Brace M. Gallien, engrossing 125 sheets births	125 00
	5.	Anna L. Mattimore, engrossing 67 sheets certificates	67 00
	5.	Anna L. Mattimore, typewriting	26 20
	5.	Arthur Hollick, expenses	1 30
	15.	Isabel L. Carman, engrossing 10 sheets births	10 00
	15.	Horace Andrews, expenses	19 74
	15.	F. C. Curtis, M. D., expenses	3 85
	15.	O. S. Wilson, expenses	26 96
	15.	O. S. Wilson, expenses	73 48
	30.	Anna L. Mattimore, engrossing 83 sheets births	83 00
	30.	George H. Allen copying records of interments in Cohoes cemeteries	6 00
Feb.	3.	Brace M. Gallien, engrossing 125 sheets births	125 00
	3.	Horace Andrews, expenses	8 80
	6.	Isabel L. Carman, engrossing 34 sheets births	34 00
Mar.	2.	Anna L. Mattimore, engrossing 55 sheets births	55 00
	2.	Anna L. Mattimore, typewriting	25 46
	3.	Brace M. Gallien, engrossing 100 sheets births	100 00

1885.

Mar.	10	I. L. Carman, engrossing 7 sheets births....	$7 00
	10.	O. S. Wilson, expenses..................	22 08
	10.	Horace Andrews, expenses.........	12 85
	10.	Anna L. Mattimore, engrossing twenty-nine sheets births.....................	29 00
	10.	Anna L. Mattimore, typewriting.........	14 00
	10.	Anna L. Mattimore, indexing....	59 04
Apr.	2.	I. L. Carman, indexing..................	24 00
	2.	F. C. Curtis, expenses..................	2 91
	3.	B. M. Gallien, engrossing thirteen and three-fifths sheets births................	13 60
	3.	Brace M. Gallien, indexing...............	72 00
	7.	O. S. Wilson, expenses..................	31 57
	10.	Horace Andrews, C. E., expenses.........	30
	10.	Isabel L. Carman, indexing...............	24 00
	10.	B. M. Gallien, indexing, etc.	84 00
	22.	I. L. Carman, indexing, etc..............	24 00
	28.	O. S. Wilson, expenses..................	32 70
May	1.	Anna L. Mattimore, indexing, etc..	75 60
	1.	Anna L. Mattimore, typewriting..........	20 00
	10.	I. L. Carman, indexing..................	9 60
	10.	O. S. Wilson, expenses..................	32 20
	25.	Horace Andrews, expenses...............	18 11
	25.	B. M. Gallien, indexing.....	84 00
June	4.	Richard Prescott, expenses...............	6 40
	4.	Anna L. Mattimore, indexing............	113 52
	19.	B. M. Gallien, indexing..................	72 00
	19.	Horace Andrews, expenses...............	51 02
July	6.	B. M. Gallien, indexing..................	112 00
	6.	Anna L. Mattimore, indexing, etc	84 92
	7.	James T. Gardiner, expenses.............	21 08
	7.	Arthur Hollick, expenses................	3 65
	10.	Maria Pratt, indexing....................	48 00
	10.	I. L. Carman, indexing..................	76 00
	20.	B. M. Gallien, indexing..................	56 00
	23.	F. C. Curtis, expenses..................	4 17
Aug.	3.	Horace Andrews, expenses...............	5 15
	6.	Anna L. Mattimore, indexing, etc.........	81 52
	13.	I. L. Carman, indexing..................	36 40
	17.	James T. Gardiner, expenses.............	70 00
	17.	Maria Pratt, indexing....................	96 00
	17.	I. L. Carman, indexing..................	56 00
Sept.	11.	Horace Andrews, expenses...............	2 32
	11.	Anna L. Mattimore, indexing, etc.........	58 02
	25.	I. L. Carman, indexing..................	30 00
	25.	James T. Gardiner, expenses.............	33 55
	25.	F. C. Curtis, M. D., expenses............	3 85
	25.	Maria Pratt, indexing....................	168 00

1885.		
Sept. 25.	L. W. Pratt, engrossing 100 pages of marriages	$125 00
25.	Anna L. Mattimore, indexing	40 84
		$3,995 84

Salaries and Wages.

1884.		
Oct. 31.	For amount of pay-roll, October	$1,066 65
Nov. 30.	For amount of pay-roll, November	1,066 65
Dec. 31.	For amount of pay-roll, December	1,085 45
1885.		
Jan. 31.	For amount of pay-roll, January	1,124 99
Feb. 28.	For amount of pay-roll, February	1,124 99
Mar. 31.	For amount of pay-roll, March	1,125 02
April 30.	For amount of pay-roll, April	1,124 99
May 31.	For amount of pay-roll, May	1,124 99
June 30.	For amount of pay-roll, June	1,125 02
July 31.	For amount of pay-roll, July	1,029 15
Aug. 31.	For amount of pay-roll, August	1,029 15
Sept. 30.	For amount of pay-roll, September	1,029 20
		$13,056 25

Expressage and Telegraphing.

1884.		
Nov. 5.	Commercial Telephone Co., October	$5 00
5.	Western Union Telegraph Co., October	1 36
5.	American Express Co., October	6 05
5.	National Express Co., October	6 00
Dec. 1.	Commercial Telephone Co., November	5 00
1.	National Express Co., November	4 45
1.	American Express Co., November	7 20
1.	Baltimore and Ohio Telegraph Co., November	1 03
1885.		
Jan. 5.	Western Union Telegraph Co., December	1 42
5.	Five Cent Express Co., November	2 00
5.	National Express Co., December	9 40
5.	American Express Co., December	5 95
5.	Hudson River Telephone Co., December	5 00
Feb. 3.	Hudson River Telephone Co., January	5 20
3.	Western Union Telegraph Co., January	1 90
3.	American Express Co., January	5 35
3.	National Express Co., January	3 70

1885.			
Feb.	5.	Bankers and Merchants' Telegraph Co., December	$0 33
Mar.	5.	Hudson River Telephone Co., December	5 20
	5.	Bankers and Merchants' Telegraph Co., February	25
	5.	Western Union Telegraph Co., February	2 38
	5.	American Express Co., February	2 50
	5.	National Express Co., February	4 35
	5.	Baltimore and Ohio Telegraph Co., February	78
April	2.	Hudson River Telephone Co., March	5 00
	2.	National Express Co., March	3 00
	2.	Western Union Telegraph Co., March	3 78
	2.	American Express Co., March	3 35
May	5.	American Express Co., April	2 45
	5.	National Express Co., April	3 15
	5.	Hudson River Telephone Co., April	5 10
	5.	Western Union Telegraph Co., April	6 19
June	4.	Western Union Telegraph Co., May	3 37
	4.	Hudson River Telephone Co., May	5 00
	4.	National Express Co., May	6 60
	4.	American Express Co., May	5 90
	19.	Baltimore & Ohio Telegraph Co., May	26
July	1.	American Express Co., June	2 10
	1.	Western Union Telegraph Co., June	10 36
	1.	Hudson River Telephone Co., June	5 25
	7.	National Express Co., June	3 55
Aug.	3.	Baltimore & Ohio Telegraph Co., June	37
	6.	Hudson River Telephone Co., July	5 00
	13.	Western Union Telegraph Co., July	8 55
	13.	American Express Co., July	4 35
Sept.	11.	Hudson River Telephone Co., August	5 00
	11.	Western Union Telegraph Co., August	10 06
	11.	National Express Co., August	9 20
	17.	American Express Co., August	6 15
	30.	Western Union Telegraph Co., September	5 20
	30.	Hudson River Telephone Co., September	5 25
	30.	American Express Co., September	1 50
	30.	National Express Co., September	3 55
			$220 19

PRINTING AND STATIONERY.

1884.			
Nov.	22.	Weed, Parsons & Co., printing	$250 05
	22.	Edwin Ellis & Co., stationery	5 65
	26.	Fergus Halpen, printing	4 75
Dec.	3.	Van Benthuysen & Co., printing	125 00
	10.	Fergus Halpen, printing	10 00

1885.		
Jan. 29.	Julius Bien & Co., lithography	$150 00
Feb. 18.	Julius Bien & Co., lithography	85 50
27.	R. K. Quayle, engraving	8 00
Apr. 30.	R. K. Quayle, engraving	40 00
May 10.	Fergus Halpen, printing	2 50
26.	Fergus Halpen, printing	10 00
June 7.	Van Benthuysen & Sons, printing	399 00
7.	Van Benthuysen & Sons, printing	70 35
12.	Weed, Parsons & Co., printing	654 11
12.	Van Benthuysen & Sons, printing	554 50
30.	Fergus Halpen, printing	3 75
July 3.	Fergus Halpen, printing	5 00
21.	R. K. Quayle, printing	4 17
23.	Van Benthuysen & Sons, printing	257 30
Sept. 25.	Weed, Parsons & Co., printing	289 24
29.	Van Benthuysen & Sons, printing	144 50
		$3,073 37

LIBRARY.

1884.		
Nov. 3.	D. Appleton & Co	$4 00
15.	Wm. Gould	19 50
Dec. 1.	Colton & Co	10 00
5.	Putnam & Co	2 50
1885.		
Jan. 15.	Wm. Wood & Co	5 00
15.	*The Sanitarian*, subscription to	4 00
Feb. 18.	J. Vail & Co	12 00
18.	J. B. Beers	10 00
Mar. 10.	Wm. Gould	2 50
14.	*Sanitary Engineer*, subscription to	4 00
Apr. 4.	Journal of Compr. Science	2 00
June 4.	A. S. Barnes	9 00
19.	Sampson, Davenport & Co	3 00
July 11.	J. H. Vail	4 88
Aug. 21.	W. Eskermann	2 58
21.	Ex. F. N. Spoon	1 00
		$95 96
	Geo. McDonald	8 00
		$103 96

PETTY CASH.

1884.		
Nov. 15.	Draper & Brown	$6 00
22.	R. K. Quayle	5 00

1884.		
Dec. 19.	Rent of P. O. box	$3 00
22.	James Groesbeck	16 80
22.	Eimer & Amend	45 76
1885.		
Jan. 29.	M. L. O'Brien	4 00
Mar. 10.	S. G. Spier	1 00
19.	Rent of P. O. box	3 00
Apr. 10.	Albany News Co	30
15.	James Groesbeck	3 50
17.	T. H. McAllister	2 75
June 14.	Edwin Ellis	75
July 11.	Frederick Carman	4 25
Sept. 25.	Rent of P. O. box	3 00
		$99 11

FURNITURE.

1884.		
Dec. 1.	Fairbanks	$6 00
1885.		
Jan. 22.	S. & P. Templeton, dusters	3 85
30.	Draper & Brown	9 00
Mar. 14.	W. B. Moore	12 00
16.	W. B. Moore	1 00
June 19.	D. Boughton	5 00
Aug. 13.	Van Heusen & Charles	4 00
Sept. 25.	Eimer & Amend	9 83
29.	Hammond, typewriter	100 00
29.	Michael & Co	4 32
		$155 00

REPORT OF THE SECRETARY.

REPORT OF THE SECRETARY.

Although the registration of Vital Statistics is yet far from complete, a gratifying increase in the number and character of the returns forwarded by local registrars is noticeable. Under the amended public health act of 1885, which became a law in June last, the duty of reporting births devolved upon the parents or custodians of the children born; that of securing the record of a marriage upon the groom; while the responsibility for obtaining and presenting certificates of death was placed, where it properly belongs, upon the undertaker or person having charge of the burial. The former acts failed to specify upon whom these duties should fall, and nearly all the local boards of health, in their discretionary power to supervise and regulate the registration within their respective jurisdiction, had relied on physicians exclusively for returns of nativity and mortality. But apart from the doubtful legality of compelling medical practitioners to report family details for forensic purposes, it was evident, as was pointed out in the introduction to the fifth annual report of the Board, that "complete" records could not be obtained by this method. Among the poorer classes, a very large percentage of the births occurs without the attendance of a physician, perhaps under the ministration of some irresponsible and ignorant midwife, often without extrinsic aid of any sort; and even where physicians have fully complied with the requirements of the local sanitary authorities, it is probable that at least forty per centum of the births have escaped registration. Despite the thorough organization and comprehensive powers of the New York City Health Department, the recorded birth rate in the metropolis for many years has fallen far short of the death roll, demonstrating the insufficiency of the existing system of obtaining returns, and in scattered rural populations the difficulty in this respect is greater. Some time must, of course, elapse before the public will have become familiar with the provisions of the new law, but although scarcely more than six months have passed since its enactment, already the proportionate number of birth certificates transmitted to the central bureau has much increased and is monthly increasing.

The alteration in the provisions for recording marriages was based partly upon the almost insuperable neglect or reluctance of many clergymen and magistrates to send formal certificates to the local registrars, and partly upon the fact that in this State neither a religious nor a civil ceremony is required to constitute lawful wedlock. In view of this anomalous condition of affairs, it is certain that some more or less transient alliances which would possibly be declared valid by the courts, but which in reality are merely cloaks for concubinage, will never be recorded; but when the purport of the law shall be generally understood, it is probable that all who honestly contemplate an enduring partnership will avail themselves of a system which places the legitimacy of their offspring beyond dispute.

In addition to the increased efficiency of previously existing registration, by dint of unremitting effort the number of local boards called into active operation has been much enlarged. But to maintain this machinery in motion, constant supervision is needed, for the reason that, except in our cities, the local boards are subject to frequent changes of their entire personnel. In villages the tenure of office is only one year; in townships the town clerk is usually the registrar, being a member of the board, ex-officio; and since, unfortunately, in many places political considerations prevent the reappointment or re-election of the person who has become familiar with his duties, we have each year a succession of new and inexperienced incumbents, to be indoctrinated in the technical details of their position. Save as regards this element of instability, the present act leaves little to be desired for the protection of public health, and for the perfection of our registration, if its provisions were intelligently and energetically carried into effect. To obviate to some extent the difficulties of local administration arising from such transitions, and to render unnecessary frequent special meetings of health boards in sparsely settled districts, a code of regulations was framed, with the approval of the Attorney-General, in conformity with the new law, and covering the general principles of sanitation, and suggested to the various local organizations as a model in lieu of the "Model Code" formerly issued by the State Board, but rendered inoperative through the repeal of the laws on which it was founded.

The courts having decided that members of local boards of health are State officers to whom under a general statute are delegated certain "police powers" of the Legislature, it was determined by the Civil Service Commission that the various local health officers were subject to the civil service rules, under the schedule which provides for either competitive or non-competitive examination, at the option of the appointing body, and as a result of this system it is hoped that greater efficiency and longer retention in office will be obtained.

In cities, the mayor has the nomination of the members of the board of health, who are confirmed by the common council; two for a term of one year; two for two years, and two for three years. In this way, the board becomes a continuous body, two new members being appointed each year; but after the first year each appointment is for a term of three years. No term, however, is specified for the health officer, who is appointed at the first organization of the board to be "health officer for such city," he therefore holds office during the pleasure of the board, or until his successor is appointed; *i. e.*, indefinitely.

In villages, the trustees are directed to appoint a board of health each year, although in case of their failure so to do, the existing board continues in valid operation. As in cities, the health officer is not appointed for any specified term, but is "health officer for such village." It is not therefore necessary for each annually chosen board to make a fresh appointment of a health officer, or even formally to renew the tenure of the existing incumbent.

In towns, the boards of health are composed of ex-officio members, with the exception of the citizen member; but although the term named is only one year, the varying tenures of the justices of the peace gives an element of continuity to the organization. Here again the health officer is appointed without limit of time, and holds his position until he is superseded.

It is thus evident that the law contemplates permanency in the position of the medical officer whose duties require special training, and whose efficiency will be increased by practical experience in sanitary administration. Indeed, it is obvious that the health officer must be the skilled adviser as well as the executive officer of his board, and that each new board must largely depend on him to guide it in its action, and to maintain the necessary continuity of operation.

Beyond the bare records of deaths from different diseases, it has been impossible to tabulate data of real statistical value. To reach conclusions of sanitary importance it is necessary to compare the mortality at different ages with the number of persons living at such ages; to balance the deaths under one year of age by the number of births during the year; to separate sexes, occupations, races, social conditions, density of population, and sundry other factors which have an essential bearing on the lessons to be drawn from the death roll. But to sift out even a few of these requirements of tabulation from the multitude of death certificates monthly received at the central bureau would occupy a much larger clerical force than that at present employed, which is not adequate to the actual needs of mere registration of current events; and to fulfill all the conditions would demand a more complete system of returning births than is likely to be achieved for some time to come, and an accurate and elaborate census enumeration. It has, therefore, been impracticable to do more than to show the percentage of deaths from the various zymotic diseases, and the ratio of deaths under five years to the total mortality. In connection with this latter computation it should be remembered that although, other things being equal, the mortality of childhood is to a certain extent a criterion of the sanitary condition of a locality, yet there are several possible sources of fallacy in basing an opinion thereon, unless we know the relative proportion of children and adults in any given community. Among the more luxurious classes, where many domestics are employed in each household, the relative death rate of childhood will be less than in a perhaps more healthful district where prolific couples of smaller means do their own household work. Again, in some places, hospitals or asylums for persons in advanced life may introduce a confusing element by apparently showing an excesssive mortality from particular diseases, or, on the other hand, by counterbalancing the infantile death rate with a misleading preponderance of survivals to old age. Examples of such disturbing factors exist in the Soldiers' Home at Bath, Steuben county, which unduly increases the necrology of that township, and in the Sailors' Snug Harbor at New Brighton, Richmond county, of which the 800 inmates yield a large but extremely ripe harvest to the Grim Reaper. When, as in both these instances, the inmates become permanent residents, and even voters of the district, and are counted in the census as an integral part of its population, it is difficult to devise any practicable method by which the seeming unfairness to the locality can be rectified in statistical tables, since the only basis for calculating the death ratio is, of course, the total number of inhabitants.

In many parts of the State one of the principal difficulties to be overcome in the interest of public health is the high level of the ground water, even apart from the wide regions of actual marsh land. It is needless to reiterate the lesson taught in this respect by the too great prevalence of malarial fevers which often assume an almost malignant type, or to repeat the teachings of universal experience in relation to the efficiency of sanitary engineering in diminishing and ultimately abolishing such fevers. Even where drainage has been undertaken solely for agricultural advantages, as in most parts of Great Britain, the incidental benefit to human health has become the most prominent result of the operation, and in regions formerly almost uninhabitable miasmatic ailments are now unknown. But these are not the only disorders attributable in part, at all events, to the same cause. The investigations of Bowditch and Buchanan long ago showed the close association of soil-saturation with pulmonary consumption, not, perhaps, as an immediate cause, but as unmistakably favoring the development and hastening the course of the disease ;* and when we see that from this one malady nearly a thousand deaths per month occur, or about fourteen per centum of the total mortality of the State, it may well be asked if legislative action be not justified and demanded. In but few instances can private enterprise suffice; conjoined action is needed to carry a drainage system to a proper outfall in the majority of cases, and one ignorant or unaccommodating landholder may thwart the desires and imperil the health of a community by refusing to co-operate or even to permit an outlet through his property. Sometimes a miasmatic region can only be relieved by obtaining an outlet through an adjoining township, or into another county ; oftentimes the land is of too small value by reason of its very saturation, to bear the cost of the remedy which, if applied, would enhance its worth four-fold by increasing its fertility. Indeed, this purely financial aspect of the question has caused the Act under which the English government has advanced funds for drainage, to be entitled one for the Improvement of Land; the rapid appreciation of the taxable value enabling both interest and principal to be repaid without hardship.

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* Bowditch's conclusions were that: 1st. A residence in or near a damp soil, whether that dampness be inherent in the soil itself, or caused by percolation from adjacent ponds, rivers, meadows, marshes, or springy soils, is one of the principal causes of consumption in Massachusetts, probably in New England, and possibly in other portions of the globe. 2d. Consumption can be checked in its career and possibly, nay probably, prevented in some instances by attention to this law.

Buchanan's observations, from a different point of view, showed that the rate of diminution of phthisis corresponded with the depth of drainage, amounting to fifty per cent in the best drained districts.

Simon, commenting on these facts, declares that an undrained or damp state of soil answers the legal definition of a nuisance, and that sanitary authorities ought to be "bound to provide that such a state shall not continue through want of proper constructions for the drainage."

In still another class of examples soil-saturation is induced by artificial obstacles to natural drainage; either by miscalled municipal "improvements," obstructing water-courses or valleys worn by the water itself through centuries, and turning the yield of a wide shed into an insufficient channel; or by the triumphs of insanitary engineering which carry railways across land and water, bisecting hills and filling vales, regardless of creating swamps with their embankments, or of aught save making a level pathway for the iron steed.

The apparent influence of soil-saturation as one, at least, of the factors in the causation of Cerebro-spinal fever is shown in an interesting monograph by Dr. Meredith Clymer, published in 1872, when the disease first made its appearance as an epidemic in the city of New York, and illustrated by a map indicating the localities of the reported cases in relation to the topography of the city. This map demonstrates, as the author remarks, that "the chief nests of the epidemic were in those districts in which the original water-courses had been dammed by the filling up of streets and avenues, and over the adjoining water-saturated land. Most of the cases of the disease were grouped on and about the made land, originally marshes. One of the most striking examples is in Collect place, a swampy spot in the fourth ward. Basements over these marshy places are never dry, and the walls are often covered with cryptogams."

The association of this, as of several other zymoses, with dampness of soil had been noted by previous observers in this country and abroad; but it has never been so clearly pointed out as in the above-mentioned map, the original of which was prepared by Dr. Moreau Morris from the records of the New York Health Department. Soil moisture alone, however, is to be regarded only as affording favorable conditions for the development of other as yet unknown morbific agents, of which some of the products of decomposing organic matter are undoubtedly the most potent, and filth-contamination of the soil and ground water seems to be an essential element in the problem. As might have been expected, overcrowding and want of ventilation have frequently been associated with outbreaks of the malady, but these are rather to be viewed as intensifying the poison and lessening individual power of resistance, for, as Simon remarks, "In some cases, according to local reports, the distribution of an epidemic has very decidedly not been governed by conditions of overcrowding and ill-ventilation."* In the New York epidemic of 1872, Clymer observes that where the disorder occurred away from the marshy districts, "the elected haunts were densely populated tenement dwellings, in which the house drainage was invariably found in bad condition. The part played by the diffusion of foul sewer gases in favoring the development of the disease would seem, by the collected evidence, to be unquestionable," and he quotes from Dr. Morris's report that, "Wherever we have carefully examined the local conditions, it has been found that the drainage of the premises has been faulty, or that the immediate surroundings have presented such conditions as must necessarily give rise to some form of disease, — cellars containing decomposed or decomposing vegetables, garbage, or other filth, in a putrefactive condition, and privy vaults located beneath sleeping-rooms, windows in cul-de-sacs, where there were no free currents of air. The most usual defects discovered were connected with house drainage. These cases are not confined to the abodes of the dirty, squalid and poor, but houses of a better class, with brown stone fronts, have furnished their victims." In one of these latter, of which a description is given, the main waste pipe in its course through the cellar "had openings at the section joints and at the connections of the smaller waste-pipes from above; these fissures and openings had been hid and covered with a sort of soft cement, quite permeable and useless for its purpose. Underneath the kitchen-sink there had been such a leakage that the beams, together with the flooring over them, had rotted away, and emitted an odor like that from an old ice-box. This leakage had only been very recently repaired before the disease appeared in the house."

In the rural districts, when Cerebro-spinal fever occurs, it will usually be found that these two factors of filth-pollution and water-saturation of the soil coexist where the disease obtains an endemic foothold. There may be apparent exceptions to this rule, as where the malady has shown itself in elevated sandy situations. But in these domiciliary conditions of a similar character may commonly be discovered. Ziemssen [Cycl., vol. II, p. 695], says: "Poverty, insufficient nourishment, and damp, overcrowded, badly ventilated, unclean ground floors * * * the overcrowding of dwelling and sleeping rooms, and the consequent loading of the air with animal emanations, perhaps also the saturation of the soil with garbage and the products of its decomposition, appear to be as powerful agents in the germination of the contagium as they are in that of cholera."

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* Eighth Report of the Med. Officer of the Privy Council.

Despite the voluminous bibliography of the subject, we know very little of the ætiology or intimate pathology of this fatal disorder, which seems not to have been recognized before the present century, and of which the symptomatology is so capricious that, even in comparatively recent literature, according to Dr. N. S. Davis [Trans. Am. Med. Ass'n., 1866], "no less than three or four diseases have been confounded together." Fartbermore, the difficulty of its study is increased by the circumstance that, unlike most of the specific zymoses, it affords no evidence of communicability or portability, but arises apparently spontaneously in the most isolated districts, often confining itself to single tenements or groups of houses, with no tendency to spread beyond them. Enough is known, however, to justify its classification among "filth diseases," and its greater prevalence during the colder months, when house warmth makes an indraught of the ground-air, strengthens the belief that its prevention is to be sought in proper drainage and purification of the soil, including, of course, the removal of all existing sources of pollution.

The deaths reported from this disease have ranged from twenty-five to fifty-three per month, distributed over the various districts of the State, and when it is considered that these deaths represent probably thrice as many cases, their significance becomes more ominous.

The prevalence of "filth diseases" as population becomes more dense emphasizes the need of adopting safer methods of refuse disposal than are now in use in the majority of our cities and villages. As far as sewage proper is concerned, where the topography of the locality permits and a fitting outfall can be obtained, the "separate system" of small pipe sewers with an adequate flushing supply affords an economical relief, although commonly with the drawback of contaminating streams into which the crude sewage is discharged, to the detriment of riparian communities below; and the cost of purification by irrigation or "downward intermittent filtration" is too great for its general introduction. But wherever water-carriage is employed, it is practicable to precipitate the suspended solids and to render the effluent less noxious, at all events, if not quite harmless. In many places the method of "dry removal" might be advantageously and at small expense substituted for the present vile practice of polluting soil, water, and air by storing putrescent excrement in porous privy pits in close proximity to habitations and sources of water supply.

The beneficial effects of local sanitary organization in even partially awakening public attention to dangers of this kind are already manifesting themselves in a gradual reduction in the mortality from the diseases which bear the closest relation to contamination of drinking water, namely, typhoid fever and diarrhœal disorders. The following table, comparing the ratio of deaths from the principal zymotic maladies to the total deaths from all causes in 1884 and 1885, as far as shown by the returns to the Bureau of Vital Statistics, affords some suggestive evidence in this respect:

RATE PER 1,000 DEATHS FROM ALL CAUSES.

	1884.	1885.
Typhoid fever	15.33	13.27
Diarrhœa	131.07	90.80
Conjoined rate of Typhoid and Diarrhœa	146.40	104.07
Measles	14.02	14.55
Scarlatina	13.02	14.72
Whooping Cough	14.14	10.37
Diphtheria and Croup	47.65	56.06
Small Pox	——	0.41

It is noticeable that while there has been a decrease in the Typhoid and Diarrhœa rate, the relative morality from Diphtheria has shown an increase, its greatest fatality occurring in the colder months. Apart from any question of contagion, the propagation, if not the origin of this disease, is probably in the majority of cases largely dependent upon filth-factors of an intra-domiciliary character — faults of construction, house drainage, plumbing, etc.— which are in but small degree affected by public sanitary improvements or amenable to the efforts of local boards of health. Something may be done by compelling the removal of gross accumulations of putrescent refuse from premises, but until each individual householder is taught to care for the sanitary condition of his home in every respect, and to appreciate the truth of the homely adage, "an ounce of prevention is worth a pound of cure," we cannot hope for the extinction of a pestilence which is destroying nearly four thousand young lives per annum. With strange inconsistency, a single death from that rarest of all diseases, Hydrophobia, will set a whole community agog, and arouse an insensate crusade of extermination against healthy dogs at any cost, while the very people who are foremost in such prophylactic panic apathetically close their eyes to the many thousands of deaths occurring annually from easily preventable maladies, and grudge the smallest outlay to avert losses far greater than the most disastrous war would inflict. At the lowest estimate of the pecuniary value to the community of a human life, Billings calculated from the census returns of 1870, "that the direct pecuniary loss to this country on account of preventable sickness and mortality is certainly over $100,000,000 annually, and this, without taking into account expenditures incurred on account of sickness,* etc., or the unusual losses due to great epidemics, both from waste of life and injury to commerce." (Introduction to Buck's Hygiene.) In this State alone, a similar computation will show that a saving of at least $10,000,000 annually might reasonably be hoped for from sanitary improvements; a gain which, at six per cent, would compensate for a capital investment of over $165,000,000. But to realize this gain, the probable causes of disease must be dealt with before the effects are manifested; to quote Billings again, "Sanitary measures, to be effective, should be carried out at those times when most people see no special cause for anxiety, and often, therefore, appear to involve unnecessary worry and expense." It is this unsentimental and purely monetary aspect of the question which must be impressed upon legislators and the public at large before preventive medicine can obtain the recognized place which it deserves as one of the most important objects of government; it must be generally learned that human health and productive industry bear a direct relation to the public treasury; that, as Farr has said, "Like capital invested in the soil, in the vintage, or in a commercial adventure, the capital invested in the life of man returns, in happy natures, profit of a hundred fold; in other cases, fifty, twenty, ten fold; in others it is barely returned; in some it is entirely lost, either by death, sickness, vice, idleness or misfortune."

Beside excremental and liquid wastes, a question of moment arises in all populous settlements in relation to the disposition to be made of garbage and other solid matters which cannot be admitted to sewers. In too many instances this problem is allowed to solve itself by simply letting such substances accumulate in situ on the premises in which they originate, or in the streets and alleys adjacent, until complete decomposition carries off the effluvia, and a few of the inhabitants with them. In somewhat more civilized corporations it is customary to make a contract for the collection by carts of these residua, which are deported to a dumping ground on the outskirts of the municipality, where they create a concentrated nuisance. Fortunate are the localities where a large proportion of the filling in of sunken land for prospective speculative building sites is not composed of material of this sort. It is neither difficult nor expensive to get rid of all this organic refuse by burning it, and in many places abroad furnaces for this purpose, of different capacities, are used, which will consume house garbage, slaughter-house offal, street sweepings, and rubbish of every kind, with an inconsiderable outlay for construction and management. The adoption of this plan in our larger cities might perhaps deprive some of the malodorous industries in the bone-boiling and fertiliser line of a portion of their raw material; but it would undoubtedly mitigate the complaints of the dwellers within olfactory distance of Newtown creek and Barren Island.

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* It is computed that each death in a community represents two years of illness in the aggregate; or, to state it differently, for each person who dies two are constantly ill.

Early in June, small-pox threatened to assume epidemic proportions in Montreal, where, owing to the opposition of the French Canadian population to vaccination, an immense unprotected field was open to its ravages. The danger from this source, in view of the constant intercommunication at many points along our extended border, was fully realized; but the State Board was without means to put skilled inspectors on guard to exclude infection by all the various channels of importation. Fortunately, the new Public Health Act, passed last winter, makes definite provision for the exercise by the local boards of health of "proper and vigilant medical inspection and control of all persons and things arriving from infected places, or which, for any cause, are liable to communicate contagion," and farther ordains that every such board shall "at all times provide thorough and safe vaccination for all persons within its jurisdiction who may need the same." Moreover, the local sanitary authorities are required to take "definite proceedings upon matters concerning which the State Board of Health, or its President and Secretary, shall be satisfied that the action recommended by them is necessary for the public good, and is within the jurisdiction of such board of health." Advantage was taken of these provisions to call into active operation, as far as possible, all the city, village, and town boards upon the frontier and the main routes of travel, and an official circular was immediately sent to them, announcing the impending danger and urging prompt measures to secure efficient vaccination, especially of children in the public schools and persons employed about railway stations, boat-landings, and other places of passenger or freight traffic. This was followed by other circulars of instruction and advice as the varying exigencies of the case required, and, in addition, throughout the summer and autumn, continual private correspondence was maintained with numerous local boards and health officers in response to inquiries touching particular details of their duties and powers. A difficulty at once arose in obtaining vaccine virus in sufficient quantity to meet the emergency. Although the law prescribes that all expenses incurred by the several boards of health shall be a charge upon their respective cities, villages, and towns, in most of the villages and in all towns the boards are without funds for cash expenditures, and their payments must be deferred until the items are audited and included in a subsequent tax-levy. On the other hand, private dealers in vaccine are not willing to submit to the delay and uncertainty of this method of procedure, but usually demand immediate payment. This obstacle was surmounted through the aid of Dr. J. B. Taylor, in charge of the vaccine service of the New York City Health Department, who kindly made arrangements to supply all orders from local boards of health at the lowest possible cost and "on credit." In this way, and with the energetic co-operation of the boards of health in the most exposed positions, protection has been afforded to the people, not only of the localities chiefly concerned, but of the State at large, which, without this precaution, would in all human probability have suffered from an extensive diffusion of infection.

Happily, among our resident population there is seldom found any reluctance to accept the protection afforded by Jenner's great discovery, and if argument were needed at the present day to prove the efficacy of this protection, it could be forcibly drawn from the fact that, although at different intervals since March, twelve cases of small-pox have been reported to the State Board from localities where under ordinary circumstances, the contagion would have been almost certain to spread widely, in only two instances outside of the cities excepted from the operation of the general act, has there been any extension reported beyond the initial focus, one of these being in the person of a nurse, who, supposing herself immune through a long past attack of variola, was not revaccinated, and contracted varioloid from the patient on whom she was attending.* In frightful contrast to such fortunate results, the epidemic was raging in Montreal and its environs among the unvaccinated, with alarming mortality, inflicting incalculable damage upon commerce and industry and leaving hundreds of hearth stones desolate. But even there it fell lightly on those who had been primarily vaccinated in infancy, and as far as is known spared altogether those who had been properly revaccinated. In face of facts like these and thousands of similar portent, which are familiar to all who have cared to learn, the fanatics who seek to excite ignorant animosity against the great-

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* NOTE — On the 3d of March, it was reported that a railway flagman of the West Shore line was at a lodging-house at Coeymans Junction, with suspicious symptoms, and Dr. F. C. Curtis visited the place to take such action as might seem necessary. On his arrival, however, it was found that the patient, though feeling unwell, had gone on with his train to Syracuse. The account given of the case warranting a belief that he was suffering from the preliminary fever of variola, the persons who had been exposed to contact with him were vaccinated and kept under observation until the period of incubation was past. Notice of the probable danger was sent to Syracuse, where, on March 7th, the nature of the disease was declared. The city board of health promptly isolated the case, vaccinated the persons who had been in any way exposed to infection, and quarantined those who had actually held intercourse with the patient. Of these latter, two were subsequently attacked; one of them with a mild form of varioloid, thirteen days after successful vaccination, the other, who had probably contracted the malady at Coeymans Junction, but who had escaped vaccination, with unmodified variola which proved fatal. No extension from these foci occurred.

The supposed origin of this outbreak is traceable to a lady who had arrived from Germany in the steamship *India*, February 6, and soon afterward started for Chicago in a sleeping car on the West Shore road. She complained of feeling ill during the journey, and on reaching Chicago was found to be suffering with small-pox. The car was fumigated and the bedding in the section occupied by her was burned; but apparently the process was insufficient, for when the car was returned to the road, on the 19th, it was placed in charge of the flagman whose seizure on March 3, just twelve days afterward, points to it as the probable vehicle of infection.

It has been attempted to connect the beginning of the Montreal epidemic with this episode, on the ground that two conductors were transferred from the train at Chicago to a Canadian line, and it is asserted that the first case of small-pox was discovered in Montreal on the 28th of February. But while it is impossible to disprove the assertion, the fact, stated by Dr. Covernton at the conference of State Boards of Health, in December, 1884, that the disease was then prevailing in Ontario, renders it at all events possible that the importation may have had its origin from that Province, through fomites if not infected persons.

It is worthy of notice that although no disease was reported to have occurred on board the *India* during the voyage, with the exception of a fatal case of pneumonia, the captain shortly after her arrival in port was discovered to have an eruption which was diagnosed as "chicken-pox." As the vessel sailed from Hamburg, January 15, the duration of the voyage was too long to admit the supposition that the disorder had been contracted before departure, and it is likely that some infected luggage, opened about midway across the ocean, was the immediate source of contagion.

Another importation from abroad occurred in the person of a child in a Polish family which arrived in New York from Bremen on the 10th of May, and started at once for Buffalo, in which city the patient was dicovered on May 23, the disease being at about the est boon ever conferred by science on humanity cease to hold a claim on our pity for their folly, and deserve to be regarded as public enemies.

Another lesson to be derived from our frontier experience relates to the futility of relying on quarantine alone to exclude contagious disease. In all the cases reported, the malady did not declare itself until several days after the arrival of the patients, who had crossed our boundary during the incubative stage of the infection, showing at the time no signs of illness, but having, perhaps, been unconsciously and casually exposed to the contagium during their journey in railway cars or other public vehicles. If altruistic sanitary

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seventh day of its course. Here, again, the infection was evidently acquired during the passage, and not at the port of departure, and the patient landed unsuspected on our shores while the malady was incubating. This case gave rise to much apprehension in Buffalo, as the family had found quarters in a crowded district, inhabited principally by Poles of the lowest class. Immediate steps were taken, however, by Dr. Briggs, the health officer of the city, to secure isolation and disinfection, and all unprotected persons in the vicinity were promptly vaccinated. Thanks to these precautions, no spread of the contagion took place.

On June 16, one case of small-pox was reported at Plattsburgh, the first invasion from Canada.

Early in July the disease showed itself in Long Island City, but, owing to the chaotic condition of the local board of health, it was not reported to the State Board, and there are no means of knowing how many cases occurred. On the 9th of the same month, two cases were found at East New York, the origin of which it was impossible to trace, and on the 18th, another case occurred in the same family. No extension to adjoining households happened.

September 21. One case at Little Falls; no spread of the infection.

October 21. The captain of a canal boat arriving at Rouse's Point from Canada, was found to be suffering from small-pox. The boat was quarantined half a mile from shore, and no further cases were reported.

On the 10th of October, a lady with her two children came from Montreal to visit her father in the town of Mooers, Clinton county. By the order of the local board of health, she returned on the following Monday to Canada, but left the children with their grandfather. On the 22d, one of these children was found to have small-pox, and in about twelve days afterward the second one and also another member of the family sickened. The house was quarantined and placarded, and after the recovery of the patients disinfection was practiced by the health officer; but it is suspected that during the illness an eccentric neighbor, who dabbled in diagnosis on the strength of his maritime experience, entered the premises "to find out whether it was small-pox or not." At all events, on the 5th of November, this inquisitive neighbor's son was reported to the health officer as having variola, and the latter gentleman confirmed the diagnosis, despite the indignant dissent of the father. This case is not positively traced to infection from the first mentioned household, and may have had a different origin, as the locality is on a direct line of travel from Canada.

October 24. A new inmate of the Essex county poor-house displayed the eruption of variola. The patient was isolated, all persons who had been exposed were vaccinated, and a nurse who, having had the disease, was supposed to be protected, was engaged. On the 11th of November, this nurse sickened with varioloid.

December 4. A case reported from Quarryville, near the village of Saugerties, the eruption having declared itself five days previously The infection was probably contracted in Albany, as described in the following letter from Dr. Kemble, health officer of Saugerties:

efforts could everywhere be directed to isolating communicable disease at its place of origin and preventing its exportation, quarantine might merit the confidence reposed in it by some continental authorities; but it can never be completely efficacious to guard against importation, and the most important function of preventive medicine is to endeavor to diminish individual susceptibility to infection; to remove, as far as possible, all conditions which may favor the multiplication and dissemination of the poison.

When the Provincial Board of Health assumed control of traffic and travel from Montreal, under the capable superintendence of Dr. Covernton, every available step was taken to prevent the exit

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To the Secretary of the State Board of Health :

SIR — I have the honor to make the following report of case of varioloid in this town :

James Stone, a resident of this town, while at work on capitol at Albany, was taken sick November 23, 1885 (Monday), and on Wednesday came home to spend Thanksgiving, when he took to his bed, and a physician was sent for. On Saturday the 28th, the doctor noticed an eruption, and told me his suspicions in the case, and said he would report at his next visit in the morning. Sunday 29, he pronounced it a case of varioloid. The man lived three and a-half miles from the village of Saugerties, in a one and a-half-story frame house, along a country road — a couple of hundred yards from other houses. I went at once and placed them in quarantine.

The family consisted of father, mother, and four children; the latter under ten years of age, two of which had never been vaccinated. The whole family were at once vaccinated. Quite a number of people had been in on Thursday and Friday, but no one after, to my knowledge. The man could give no clue to source of contagion; said he had been to the *theatre* and to *church* (he was a Catholic).

Everything was promptly removed from his bed-room, and the children directed to be kept up stairs, as much as possible; there was but one room besides his bed-room down stairs. A guard was placed outside to do errands, etc., and nothing permitted to pass out of the house, not even a postage stamp. On Thursday, the sixth day since the doctor noticed the eruption, he was flighty at night and also Friday. Saturday evening when I called at the door, his wife said he was better, he rested better that night, but toward morning had a chill and soon after died. That evening he was put into a coffin and box and his bedding was taken some distance from the house and with a favorable wind *burned*. His body was then brought to the Catholic cemetery in this village and buried in a deep grave at midnight. The widow and her four children were kept in quarantine until fourteen days had elapsed, after his first breaking out, then the living rooms were thoroughly disinfected (the bed-room having previously been), and the quarantine declared raised.

The vaccinations all took, and up to date, there has been no further development of disease. His disease was of confluent variety; very profuse over head and upon extremities. There has been a pretty thorough vaccination in the town, and the people may well be thankful, that owing to prompt action of board of health, there has been no further spread of the disease. I am very respectfully,

Your obedient servant,
WARREN KEMBLE,
Health Officer,
Saugerties, N. Y.

December 18, 1885.

A fatal case, which by an oversight was not reported to the State Board at the time of its occurrence, happened at Kinderhook. On the 24th of December, a lady residing in Albany went thither to visit her mother, whose family consisted of eight persons, including two unvaccinated children. On the 26th, she first complained of feeling ill, and on the 28th the eruption appeared, becoming confluent, and death ensued on the 31st. Dr. Pruyn, health officer of Kinderhook, secured prompt vaccination of all the inmates of the household, and proper isolation and disinfection, and it is hoped that no farther danger is to be apprehended.

[Since the above paragraph was written, Dr. Pruyn has reported, under date of January 10, that all vaccinations proved successful, and that no other cases haven arisen.]

The exposure in this instance is supposed to have occurred through intercourse with a teamster employed at the Albany alms-house, who is alleged to have been engaged in the pest-house belonging to that institution, and who, according to the patient's own statement, had visited her house.

of infected articles, or of persons who could not show evidence of protective vaccination; and the beneficial effect of such action has been demonstrated in the comparative exemption of Ontario from invasion and the ease with which the disease has been "stamped out" in the few places where it has occurred. But though the exodus by public means of conveyance was thus regulated, there still remained too many risks of private access to this State to permit any relaxation of vigilance on the part of the local boards of health. The shores of Lake Ontario and the St. Lawrence river offer innumerable landing places for small boats, while more than sixty miles of our boundary consist of an imaginary land line, crossed by roads and pathways open to the casual wayfarer. Even had it been possible for health boards in the border towns, with their limited resources, to watch every point of entry, their jurisdiction does not extend beyond their corporate bounds, and they could have no control over suspected persons or things until their territory had actually been invaded. Early in October the Governor of New York appealed to the United States Treasury Department for aid from the "epidemic fund" appropriated by Congress, and in compliance with his request the Marine Hospital Service organized a system of inspection under the supervision of Surgeon Austin, agents being stationed at the principal boat landings and at all the entries of railways, with instructions to examine approaching trains and prohibit the ingress of passengers and luggage without a satisfactory medical certificate of freedom from infection. This system, however, was designed only to protect the frontier line, and not in any wise to trench upon the jurisdiction of the local boards of health, or to relieve them from responsibility in respect of sanitary administration within their respective municipalities.

The cost of vaccine, even at the lowest rates, is a serious tax upon many of the smaller communities, and, since the whole State is concerned in having every locality rendered invulnerable to epidemic disease which may thence spread to adjoining populations, it appears only equitable that aid should be extended to the local boards in furnishing the virus which they are expected to apply gratuitously. At comparatively small expense, the State Board could make arrangements, either on its own account, or by contributing to enlarge the facilities of the New York City Vaccine Department, to provide reliable virus at all times in sufficient quantity for such gratuitous use.

The deaths from small-pox during the past year were: In April, one in Syracuse; in June, three in the city of New York; in July, two in New York, one in Long Island City, one in East New York; in September, five in New York; in October, three in New York, one in Albany, one in Essex county poor-house; in November, eight in New York; in December, five in New York, one in Quarryville, one in Kinderhook.

Typhus fever, which had for some time held no place in our mortality records, showed itself early in the year in New York city and Brooklyn, and up to the end of November fourteen deaths had occurred from this disease in these two cities, twelve of them being in the former; no cases having been reported in any other locality in the State. In the latter part of November, however, an outbreak took place in the Albany penitentiary, which at one time threatened to assume dangerous proportions. The contagium was doubtless introduced by some recent convict, the sanitary condition of the prison being good, and the inmates who had been long confined having been previously free from disease; but as the nature of the malady was not recognized until many persons were affected, the origin of the first case could not be ascertained. As soon as the City Board of Health was informed of the existence of the disease, active measures were taken to prevent its spread, and it is now believed to be under control. The observations of the local board in the present epidemic have seemed to fix the maximum incubation period of the infection at two weeks from the known dates of exposure, and have, as might be expected, indicated that the malady manifests no great extent of contagiousness under favorable conditions of cubic space, ventilation, and cleanliness.

At the beginning of the year apprehension was entertained of the probable importation of Asiatic Cholera, which had committed disastrous ravages in the south of France during the preceding season. Happily, this country was spared a visitation of the pestilence, although, as was anticipated, it again spread in the Mediterranean districts, causing in Spain and Italy alone, up to the middle of October, over 100,000 deaths, and showing itself in less portentous proportions in France, China and Japan. Its continuance in scattered cases in the Mediterranean provinces during the past winter gives warning that the warmer weather may induce a renewed outbreak, and that our domestic precautions to abate all conditions which might afford it a lodgment should be energetically maintained.

POTABLE WATER.

The question presented to the sanitarian in connection with water pollution is not whether a given specimen of water is certain, or even likely, to cause immediate disease among its consumers; but whether it affords conditions which may, under possible future contingencies, originate or propagate zymotic disorders. And this is a question which, in the present state of our knowledge, neither chemical nor biological processes can satisfactorily determine. Nearly all modern chemists of any eminence are agreed as to the inadequacy of analytical methods to pronounce upon the wholesomeness of water, howsoever useful they may be in measuring its chemical purity. Nichols remarks that "it is not only difficult but impossible, either to determine the total amount of organic matter, or to decide upon its origin. As far as the total amount is concerned, the fact that it cannot be determined is a matter of no great consequence. Even if the chemist could say with certainty that a particular water contained exactly one or two or five parts organic matter in 100,000, we should be far from having the data necessary to form an opinion as to the wholesomeness of the water, for it is evident to any one that a pound of sugar or of glycerine would have a very different importance from that of a pound of (dry) fœces, yet either is a pound of organic matter." A cup of coffee or tea contains more organic matter than a dangerously polluted water, and a weak solution of quinine will yield enough organic carbon and nitrogen to condemn a water by Frankland's process if the source of the admixture were unknown. Mallet, after an elaborate comparison of the various methods in use, separately and collectively, while he attaches much importance to a determination of nitrates and nitrites, concludes that, "it is not possible to decide absolutely upon the wholesomeness or unwholesomeness of a drinking water by the mere use of any of the processes examined for the estimation of organic matter, or its constituents;" that such processes "should even be deemed of secondary importance in weighing the reasons for accepting or rejecting a water not manifestly unfit for drinking on other grounds;" and that "there are no sound grounds on which to establish such general 'standards of purity' as have been proposed, looking to exact amounts of organic carbon or nitrogen, 'albuminoid ammonia,' oxygen of permanganate consumed, etc., as permissible or not. Distinctions drawn by the application of such standards are arbitrary, and may be misleading." On the other hand, Wanklyn, who is the originator and enthusiastic upholder of the "albuminoid ammonia" test, proclaims that "presence or abundance of nitrates does not show defilement by means of sewage, and deficiency of nitrates does not show absence of defilement, * * * and it cannot too strongly be insisted upon that the nitrates afford no data of any value in judging of the organic quality of a water." Indeed, anyone who is conversant with the numerous controversies between Tidy, Frankland, Wanklyn, and others will be inclined to agree with Folkard in his assertion that "eminent water analysts had brought forward apparently conclusive evidence of the worthlessness of all processes of water analysis except their own, and he was convinced that each one of these chemists was right." Such an assertion is, of course, not intended to cast discredit upon the skill of the chemist or the accuracy of his quantitative results; the essential point at issue from a sanitary outlook lies in the interpretation of these results. What may be "impurities" in the eye of the technical chemist (such as carbonate of lime or other mineral matters), may be of very trifling hygienic import, whilst a water that would be passed as reasonably pure by the most exacting analyst may convey disease. Thudichum has said that there may be waters "perfectly clear and palatable, in which the chemist would discover no appreciable amount of organic matter, and yet they would carry death wherever they were consumed." Ekin has stated that he had "over and over again, examined water that had undoubtedly given rise to typhoid fever, and found that it contained a very small amount of organic matter, and he had gone into districts where there could be no sort of contamination, and examined the springs, rivers and brooks, in which he had frequently found large amounts of organic matter that by no test could be distinguished from the organic matter in sewage." Huxley is reported as declaring that "water might be as pure as possible from a chemist's point of view, and yet be most deadly." Frankland says: "I have myself mixed one volume of the dejection of a patient dying of cholera with 1,000 volumes of good water, and have submitted it to analysis, and have been unable to detect any thing unusual in the water; chemical analysis is unable to detect these small quantities of morbific matter which are calculated to transmit disease to people drinking the water." De Chaumont gives, in his lectures on State Medicine, tables of analyzed waters, showing that "in several cases with a small amount of albuminoid ammonia specific disease was present, whilst in others with a much larger amount no disease was traced," and on another page he remarks that "an increase in such substances as nitric and nitrous acids and ammonia is only evidence of previous contamination of a dangerous kind, but no proofs by themselves of existing danger." In fact, nitrogen as nitrates and nitrites is found in almost infinitesimal quantities in fresh sewage, these being the products of destructive oxidation, usually in the soil, and not necessarily derived from sewage, as nitrates may be furnished in large amounts by certain geological strata, notably in the case of chalk, or even by the air to falling rain. Farthermore, as was shown by the Report of the Rivers Pollution Commission, "nitrates and nitrites are also rapidly destroyed when the organic matter in the water containing them enters into putrefaction, a condition which often occurs in streams or reservoirs containing much polluting organic matter." It was Frankland who first dwelt upon the importance of this estimation of what he christened "previous sewage contamination;" but his indefatigable opponent, Wanklyn, retorts that "the only object worth keeping in view is the present or actual impurity, and that the search for past contamination is a confession of the untrustworthiness of the test for actual contamination." The latter chemist, as has already been noted, lays almost exclusive stress on the quantitative determination of albuminoid ammonia, so called because albumen is one of the principal substances which yield ammonia on distillation with an alkaline solution of permanganate of potash; on this process, however, Frankland has visited the severest retaliatory criticism, and Nichols, while admitting its value in certain respects, observes that, "because different amounts" (of albuminoid ammonia) "are obtained from the same weight of different nitrogenous substances, as well as on account of the fact already alluded to, that the oxidation of different substances by the permanganate of potash is more or less incomplete, the figures obtained have a relative rather than an absolute significance."

The now almost entirely abandoned estimation of "organic and volatile matter" by ignition, and the various processes for ascertaining the "total oxygen absorbed" by organic matter from a permanganate solution, have had their advocates and their opponents; chlorides, though always present in sewage, may come from many other sources and their amount is by all analysts considered only in connection with other data, many waters having induced disease where but a very small percentage of chlorides was present, and many innocuous waters containing quite large amounts. In fine, although nearly all the proposed tests may suffice to cast suspicion upon a water, yet, since they show products rather than processes of decomposition — indicating the presence of substances possibly adapted to injurious fermentative action, but not the ferments themselves — all candid investigators concede their insufficiency to decide the question of safety or danger. To take a positive stand in this respect is to risk the ludicrous inconsistency quoted by Fox, where the water of the same well being analyzed by five chemists of repute, the first opines "that the water is of good quality;" the second, that "it is surface water, and is bad;" the third, that it contains "so much organic matter as to be unfit for drinking;" the fourth, that it is "a perfectly pure water, and quite fit for all domestic purposes;" the fifth, that "the water is unusually pure." It is but fair to add that some of these opinions were from gentlemen who classed harmless mineral substances as "impurities."

In the report of a committee, of which Prof. C. F. Chandler was chairman, to the State Board of Health in 1882, the status of chemistry in its relations to hygiene is admirably summarized by Waller, who frankly admits that, "In reviewing the methods of water analysis for sanitary purposes, and the conclusions to be drawn from the results, we cannot but conclude that our knowledge of the whole matter falls very far short of what is desirable. * * * At the present time, the utmost that we can do is to endeavor to discover whether a given water affords favorable conditions for the growth of dangerous germs, assuming that hypothesis to be correct. The processes of putrefaction, especially those of animal matters, are most likely to afford organisms dangerous to the human system, therefore, though some dangers are to be apprehended from decaying vegetable matter, the dangers from the presence of sewage in a water are much greater. If, then, we could detect even the minutest traces of sewage in a water, it would serve as a basis for pronouncing a decision upon it. But here again we are at fault, since, so far as known, there is no element or principle existing in sewage and characteristic of it, which would survive the percolation through a few feet of soil, that does not exist in waters of undoubted purity." And of the attempt to define fixed standards of purity, he adds that, "by this means we may condemn many good waters as bad, and what is worse, pass many bad waters as good."

The appended table will show some of the standards of purity adopted by different chemists, and indicate how far a few analyses of water compare therewith. It is, however, hardly necessary to adduce farther argument in support of the self-evident proposition that an undetectable admixture of the specific poison of cholera or typhoid fever is more to be feared than a vastly greater contamination with the products of decomposition of non-specific matter. It is a thing of common experience that water highly contaminated with even excremental matter may be drunk for a long time with apparent impunity by many people; but that at some unexpected moment, either from an as yet unknown change in the fermentation-process, or as is oftener probable, from the introduction of an almost inappreciable quantity of specific infective excreta, an outbreak of typhoid fever may devastate the community thus supplied. The disastrous epidemic at Plymouth, in Pennslyvania, last year, affords, according to the recorded phenomena, an illustration of this difference between quantity and quality of pollution, the disease seeming to have selected the consumers of the water from a reservoir contaminated by the discharges from a single typhoid fever patient, and spared those who used that from wells containing much more organic matter as indicated by chemical tests. A still more striking example was that at Caterham, in England, where the evacuations from a temporarily employed laborer with "walking typhoid" found access to a large well sunk in the chalk for public supply, and sufficed to distribute the malady extensively along the water-mains. Scores of similar instances, as regards the dissemination of both typhoid and cholera by extremely minute volumes of infective material abound throughout sanitary literature. There appears to be increasing evidence in support of the belief, as old as the days of Hippocrates, that malaria may be conveyed by water. Within recent years, several observations, principally in India, have shown the association of malarial fevers in otherwise exempt localities with the use of water from streams flowing through marshes and jungles some distance away, and it is pointed out that the most dangerous streams are those which rise in the dense forest and are overhung in part of their course by thick foliage and underbrush, while those which are bordered by sand and boulders are generally innocuous. (British Medical Journal, No. 1245, p. 942.) It is, of course, obvious that in the existing state of chemical science no analytical process could detect this sort of morbific contamination, nor is such an achievement possible until, if ever, pathology shall have determined the precise nature of the various contagia. There is, perhaps, some reason to suspect that these may ultimately come to be classed among chemical products of fermentation in which the various micro-organisms now generally regarded as specific play the part of ferments, their reaction on their environment evolving, as a tertium quid, the real materies morbi; a something to be classed, perhaps, among the as yet little studied group of the ptomaines. Pasteur's experiments in "attenuating" the virulence of certain "microbes" by successive cultures in comparatively simple media until ultimately they become quite innocuous, and, per contra, the apparent intensification of the "micrococcus septicus" by successive transmissions through animals, point to this essential influence of the environment, if not to the possibility that the medium may be more concerned in the character of the product than the particular kind of microzyme. The fact that different observers have insisted on their discovery of different micro-organisms as the specific causes of one and the same disease, as in the cases of typhoid fever and cholera, lends some weight to the arguments of the polymorphists who like Naegeli, believe that the pathogenous bacteria are "nutrimental" modifications of the non-pathogenous varieties, and that any of the schizomycetes may manifest itself "as the agent of acidification of milk, of putrefaction, and as the agent producing several maladies." Hueter, at the International Congress of 1881, announced his belief in the possibility, "that at any spot the putrefactive processes may take on such a course that micro-organisms arise from them which produce scarlatina." It is well known that various fungi may act like torula in producing alcoholic fermentation, and that the torula itself may, in alternate generations, give rise to alcoholic or acetous fermentation. Ziegler, in his Pathological Anatomy, remarks: "It does not, however, follow that each kind of decomposition is due to a single specific fungus, nor that one fungus may not give rise to more than one kind of decomposition." And further on he says: "It is possible that harmless colonies of bacteria may become dangerous if they are removed from their normal seat to other regions. Thus the saliva, when it contains bacteria, may excite violent inflammation if it reaches the bronchi or alveoli of the lungs;" and again, "though we may partake with impunity of many fermenting or decaying substances as food, we must not think that all the products generated by the non-pathogenous are equally harmless. Highly poisonous substances are formed in many of the bacterial decompositions. One of the most speedily fatal of diseases, septicaemia, is due to poisoning of the system with the products of bacterial putrefaction, or sepsis. Cadaveric poison, the poison of decaying fish, sausage, cheese, mussels, etc., are very probably the chemical products of special forms of putrefaction." On another page he reminds the reader that "it is bacteria which superinduce putrid decomposition in albuminoid bodies. * * * When albuminoids undergo putrid decomposition, we have formed peptones and similar bodies; a certain putrid principle or poison (Panum), and bodies resembling ferments; sepsin (Bergmann and Schmiedeberg), nitrogenous bases, like leucin and tyrosin,'' etc., etc.; and in this connection it is to be borne in mind that the most potent agent of ordinary putrefaction is the non-pathogenic bacterium termo. Sir James Paget, in the Bradshawe lecture of 1882, after referring more particularly to individual susceptibility as affording the soil for the multiplication of disease-germs, remarks that, "even among those in whom they do germinate, the product varies according to the soil." In the preceding year Dr. Harley's experiments had led him to affirm that, "a fungus which may have no toxic properties when grown on one soil, may acquire toxic properties sufficient to be deleterious to animal life when grown in another." The idea thus shadowed forth, of modification by the environment, is ingeniously supported by Dr. Millican in his interesting work on "The Evolution of Morbid Germs'' (London, 1883). Simon, in his article on Contagion in Quain's Dictionary, adverts to the "analogy in the facts which Professor Mosler has put together in explanation of the blue milk contagium of dairies; facts showing that the omnipresent penicillium glaucum, if its spores happen to light in particular (morbid) sorts of milk, will operate distinctively on their casein as an anilin-making ferment, rendering the milk blue and poisonous, and imparting to each drop of it the power to infect with a like zymosis any normal milk to which it may be added;" and he continues, "in our own more special field, pathologists have already learned that certain of the so-called "morbid poisons"— the contagia of erysipelas, pyæmia, and tuberculosis, are intimately related to the common ferment or ferments of *putrefaction;* and that the most vehement of these contagia can be developed by the artificial culture of successive transmissions in the living body from the comparatively mild contagium of any *common inflammatory* process." The most recent contribution to the chemical side of this vexed question is that of Professor Brieger, who, in a monograph (*Die Ptomaine*, Berlin, 1885) describes and formulates eight alkaloidal products of putrefaction, including a definite, extremely toxic, and apparently specific base, having the formula $C5\ H13\ N\ O$, resulting from the putrefaction of mammalian flesh. The author promises still further to investigate the products of the reactions of micro-organisms upon organic matters.

The evidence that microphytes (aside from any discussion as to their specificity) act as ferments without whose presence putrefaction does not occur, has given lately considerable prominence to the method of biological examination of suspected water, and although this has not yet been sufficiently prosecuted to establish it on the basis of scientific accuracy, its indications encourage a hope of its increasing value in the near future. It is certain that the number of colonies of bacteria appearing in a solid nutritive-gelatin medium, inoculated with different specimens of water, and the rapidity of the liquefaction of the medium under their influence, are not proportioned to the amount of impurity predicated by chemical analysis, but do seem to bear a relation to the pathogenic properties of the water. The present state of our knowledge on this subject was summarized in a paper before the International Pharmaceutical Congress at Brussels in September last, by M. Van de Vyvere, whose conclusions are that a potable water should not contain either any of the so-called colorless algæ, many infusoria, or bacteridiæ; that the addition of sugar should not lead to the development of fungi; and that when cultivated in gelatine it should not produce numerous colonies of bacteria, nor should these cause liquefaction of the medium in less than eight days.

Both experience and experiment show that the alleged self-purification of running water occurs to but a limited extent, and in most instances the supposed phenomenon is explicable rather by dilution than by purification. In the case of the river Irwell, which after receiving pollution at Manchester, runs eleven miles and falls over six weirs in its course to the Mersey, chemical analysis could detect scarcely any appreciable purification at its mouth. Indeed, the conclusion of the Rivers Pollutions Commission, in the famous "Sixth Report" was that there was no river in the United Kingdom long enough to purify itself if contaminated by sewage near its source, and that, "in the case of river water, there is great probability that the morbific matter, sometimes present in animal excreta, will be carried rapidly down the stream, escape decomposition, and produce disease in those persons who drink the water; for the organic matter of sewage undergoes decomposition very slowly when it is present in running water."

Filtration, by any method practicable on a large scale, although it will arrest suspended particles and may thus greatly improve the condition of a water in some respects, is not to be depended on as regards matters in solution, nor, except in laboratory experiments with porcelain, to remove bacterial organisms. Chemists filter the very reagents which they employ in their analyses, knowing well that no weakening of the solutions is thus caused, and physicians and pharmacists constantly use the same process in their practice.

In view of the uncertainty of both chemical and biological examinations in the present state of our knowledge, the greatest importance attaches to the purely physical inspection of the surroundings of a source of water-supply to ascertain if there be any possible danger of its contamination, and if this be discovered, and cannot be surely prevented, the water is to be shunned, irrespective of all analytical testimony in its favor. As Corfield observes, "the average quality of a drinking water supplied to a place is not the matter of most importance, and, indeed, is rather a fallacious guide. What we want to know is the quality of the worst sample that the public are likely to be supplied with at any time." Simon's statement, that "it ought to be an absolute condition for a public water supply that it should be uncontaminable by drainage," is indorsed by the opinion of Parkes (Quain's Dict.) that "the great point in choosing water is, in practice, its freedom from any change of contamination with excreta or with refuse matter from habitations;" and it would be easy to multiply quotations from the most eminent sanitarians to the same effect. It is this probability of contamination which renders rivers the least desirable sources of supply everywhere, and especially where riparian communities are allowed to discharge large volumes of sewage into them, or where their banks permit the inflow of surface washings from cultivated land.

When any suspicion attaches to a particular water, and it is impracticable to procure a pure supply without delay, recent experimental researches warrant the belief that it may be rendered innocuous for temporary use by boiling. Although the crucial test of actual experimentation with the various contagia has not been applied, there is sufficient evidence that the "pathogenic" bacteria associated with most of the infectious diseases are unable to withstand boiling for half an hour or even less. On the other hand, a temperature much below zero does not destroy the vitality of these micro-organisms, and freezing is ineffective, either from a chemical or biological point of view, in purifying water. For this reason as much care should be exercised with regard to the source of ice as of water for potable purposes. The greater part of the salts, even those which constitute the "hardness" of water are expelled in congelation, but other and more deleterious matters in solution may remain almost undiminished, and organic substances in suspension, as well as different varieties of bacteria, may be retained unaltered.

ALFRED LUDLOW CARROLL, M. D.

SANITARY COMMITTEE.

REPORT OF THE SANITARY COMMITTEE.

The work of the sanitary committee has consisted in making a sanitary examination in localities where special disease or danger of disease was alleged to exist, and in giving such expert advice as seemed to be required in each case. The reports on these examinations are herewith given.

At Catskill, the complaint arose from alleged improper disposal of garbage, but Dr. Curtis, acting as inspector for the State Board, finding other insanitary conditions, went over the whole question of the sanitary improvement of the town with the local board of health, giving them the advantage of his advice and experience in village sanitation.

At Johnstown, the complaint arose from the pollution of a mill-race, which when drawn down was liable to engender disease.

At Rhinebeck, which has been before the Board for some time, the alleged insanitary conditions existing were first investigated by the drainage committee. Its report of the conditions prevailing in the coves cut off from the river by two railroad embankments and of the conditions prevailing in the neighborhood was such, that it was not possible to fix upon the coves complained of as the source of disease. The matter was referred to the sanitary committee as involving the question of the causation of disease. A number of conditions seemed to be acting to produce malaria in the neighborhood of Rhinebeck, and the views of the committee regarding them are set forth in the report.

A nuisance caused by the accumulation of logs off the shore of Grand island in the Niagara river, of which complaint was made on account of the legal questions involved, the matter has been referred to the Attorney-General for his opinion as to the powers of the State Board to act in this matter.

One of the most important sanitary investigations made under the committee was that at Gouverneur, St. Lawrence county, where Dr. Curtis found that cerebro-spinal meningitis and diphtheria were prevailing to an alarming extent. The cause of the disease appears to be directly traceable to soil saturation, and the question was, therefore, referred to the committee on drainage, sewerage and topography, in the report of which are given full descriptions of the case. The sanitary committee found that twenty-five per cent of the deaths from zymotic diseases can be prevented if proper sanitary measures be taken by the village.

Another very important case, involving the water supply of a large city, will be found in the report on the investigation of a water supply for Syracuse. At the request of the citizens, the committee visited Syracuse and held a public meeting, where, in response to numerous questions, the committee gave their views respecting the methods of sanitary investigation necessary to pronounce upon the wholesomeness of a water supply. Entirely too much confidence is felt by the people at large in the results of chemical analysis of water. The dangers which threaten water supplies are by no means in direct proportion to the chemical purity of the water. It is the specific character of the polluting material more than its quantity that makes water dangerous. An examination, therefore, of all its sources of pollution is the most important factor in determining the sanitary character of a water supply. This principle, which has not been understood, the committee endeavored to explain and illustrate to the citizens of Syracuse. Such sanitary investigations of water supplies can only be made by persons of large sanitary experience with the knowledge and sagacity required to detect the possible dangers which threaten the purity of waters, or foresee those likely to arise in the future.

This question of the sanitary examination of potable waters, which has heretofore been largely left to the chemist in the laboratory, must, in the light of present knowledge, be treated in a far more comprehensive and thorough manner.

The question of the ice supply of Syracuse was also brought before the committee by its local board of health. The committee have not been able to make a final report on this question until analysis has been made of the ice cut from certain points which are described in the report.

A synopsis of the sanitary laws of Great Britain and the United States with the decisions of the courts on sanitary questions, compiled by Hugh Weightman, Esq., is also given and will be found of great value for sanitary purposes.

WOOLSEY JOHNSON,
Chairman.
ALFRED MERCER.

June 12, 1885.

Dr. ALFRED L. CARROLL, *Secretary of the State Board of Health:*

DEAR SIR — An application was received at the office, on the 10th inst., from the board of health of the village of Johnstown, through the health officer, Dr. J. E. Burdick, for inspection and advice from the State Board respecting an alleged nuisance in that village. In response to which I visited Johnstown the next day, and herewith report the conditions found, for your information and action.

Johnstown is one of the oldest incorporated villages in the State, the capital of Fulton county, and has a population of about 6,000. It is situated on rolling, hilly upland, having a clayey, loam surface on a calciferous bed. Its business consists chiefly of the manufacture of leather and gloves. Three or four miles north of it is Gloversville, a village of 8,000 inhabitants. Both of these considerable villages are located on the Cayadutta creek, which rising in the northern part of the town empties into the Mohawk near Fonda, four miles south of Johnstown. This creek receives most of the sewage of Gloversville and also a part of that from Johnstown. Entering the corporate limits of the latter at the north-east, its bed passes southerly through the edge of the cemetery grounds, then turning directly west it traverses the village to the north of its most thickly settled portion and again turns southerly and passes out through the western part of the village. At the point where it turns west it receives the water of a small meadow creek just after it passes through a mill pond; also as it turns south the outlet of another pond empties into it, the water of which comes from another small brook.

At the northern village outskirts a dam is thrown across the Cayadutta creek and its water turned into a mill-race. This runs in a generally straight course for about half a mile west and the water passes into conduits under ground to several mills for the manufacture of leather, finally returning to the original bed of the creek below. It is this mill-race which is the source of complaint, on the ground that it is polluted by sewage along its banks and from Gloversville above. It has existed for its present purpose for very many years.

At the time of my visit this race diverted all the water of the creek, none passing over the dam; this is generally the case. The artificial channel is about ten feet wide and the bottom was entirely covered except at a few points where the edges for a certain distance being shelving, the ground is marshy. On one side the bank is abrupt and well kept; on the other, the land not being owned by the company, it is uneven, much of the way grown up with bushes and often marshy. The water is of a brown dark color, but transparent, although carrying in suspension particles of dark-colored, apparently vegetable material. It has much the appearance of water flowing from a peat swamp, but the color is said to be due to the water from tanneries flowing into it and the dye-stuff of leather. The channel has a fall of perhaps two feet in its entire course, and the flow is moderately rapid, water being nowhere stagnant; it was perhaps two feet deep in mid-channel. The entire amount passes at its head through a circular conduit two or three feet in diameter. The bottom is muddy with silt, and it requires cleaning out once in two or three years. Long grasses grow in it beneath the water. The first half of it runs through pasture land, no houses being near. It receives a few house drains, to be seen projecting into it. Further down a horse-car barn is immediately on its bank, leachings from which and a large manure pile pass directly into it. A little further, drippings from an ice-house keep the ground wet, and there is another barn and yard for hens, all on the edge of the bank. Then, a shallow ditch for carrying surface water causes a set-back for some distance and the bank is flat and marshy and grown up with flags. One or two privies are upon the edge of the bank and a few more house drains empty into it. There are not many dwellings near, however, as it runs through a sparsely-settled outskirt of the village. Toward the lower part of its course refuse matter and tin cans are observed in the bottom. There is also considerable floating material, sticks and vegetable matter mostly. At its terminus a strainer arrests these, and it is found necessary to remove them very frequently.

You will observe the points of danger are, the sewage from above, that from several houses, and the pollution from barns, privies, etc., on the bank. Then there is the silting up of the bottom, the refuse waters thrown into it, and the irregularity of the bank on the north side.

Another point, not alluded to, is also the exposure of the bottom by drawing off the water below a safe level. This I am told occurs when there is low water in the summer time. A resident informed me that at such times there is a green scum on the water, the bottom is uncovered and the smell very bad. This was the case in the neighborhood of the horse-car barn. At the time I saw it there was nothing offensive about the stream.

There appears to me little serious ground for complaint as to the condition existing at the time of my inspection, but there is a good deal of possible evil in it which should be certainly guarded against. Being in a quite sparsely-inhabited outskirt of the village the problem is simplified since there are fewer exposed to it and less chance for its pollution. There will come a time with the expansion of the village when it will be necessary to convey this water in a closed pipe to the mills. For the present it appears to me that with a few less radical precautions the present mill-race will be safe. The faulty bank should be rectified at all the points where it is irregular and sloping. The entire channel is much wider than is necessary, but could not probably be narrowed except by stone work, as the banks would wash. But the present banks should be made abrupt and the soakage in the soil, making marshy places with more or less contaminated water, should be at once rectified. For the purpose of not impeding the current overhanging bushes should be trimmed away. All coarse refuse should be removed, such as cans, hoops, and similar waste. The bottom should be cleaned every year; it is questionable whether it would be safe to expose it during this summer weather.

Besides these improvements of the channel certain regulations ought to be adopted. (*a*) The water should, under no circumstances, be allowed to be drawn off so as to expose the bottom to any degree. (*b*) House drains should not be permitted to empty into it. The village is supplied with sewers as well as with an excellent public water supply, and connection could probably be made with them for all premises needing sewerage. (*c*) The pollution of the water by the barns and privies on its bank should be at once stopped and all present accumulations from them should be cleaned up. Little account need be taken of the Gloversville sewage; the defilement comes from these sources nearer home. (*d*) Refuse matter should be kept out by prohibition and by frequent inspection and removal. With these precautions I think little danger need be apprehended from this mill-race.

While this was the principal object of my going to Johnstown, my attention was called to a few other insanitary conditions, some of which I gave verbal advice concerning.

There is an offensive way of disposing of the waste from these leather mills. It runs out into rough, stony and clogged-up open drains along the sides of the street. Being composed of chemicals, dye-stuffs and animal refuse an unhealthy effluvium must arise from it in hot weather. Closed drains ought to be provided, or at least some attempt should be made to provide a smooth channel on the surface.

Two mill-ponds and the portion of the Cayadutta creek bed that is part of the time dry may also require consideration. For the present, however, they do not call for reference in this report.

Respectfully submitted,
F. C. CURTIS.

REPORT ON THE SANITARY QUESTIONS INVOLVED IN THE CONSIDERATION OF THE COVES NEAR RHINEBECK.

To the Sanitary Committee:

The condition of the coves which form the subject of the report of Mr. Andrews, published in the fifth annual report of the State Board of Health, and their influence, if any, upon public health, was brought before the Board in 1883, and referred for investigation and consideration to the committee on drainage, sewerage and topography. The conclusions of the committee then were, that since malarial fevers had been known to prevail along the Hudson river for very many years, the building of the railway could not have been the only factor favoring the development of the disease; and, as it was necessary to have reasonable assurance that the suggested improvements in the construction of the embankments were necessary for the preservation of life and health before recommending the issue of an order by the Governor, the Board confined itself to advising that the railway companies should be requested to make proper provision for a freer movement of water in order to allow the egress of any floating dead vegetation which might accumulate within the coves. This action was taken from a purely engineering point of view, and the investigation on which it was based was limited to the specific question presented by the Governor, to whom the original complaint was addressed; the State Board not being authorized to extend its inquiries to other probable causes of endemic disease, and being unwilling to commit itself to a positive opinion on the etiological aspect of the problem.

A later appeal, made directly to the State Board for advice as to the sanitary questions involved, however, necessitated a wider examination; last autumn I accompanied Mr. Gardiner in a more comprehensive tour of inspection, embracing the telluric environment of the houses where malarial disorders were alleged to have been most severe.

The first fact elicited was, that paludal fevers were common over a wide region of country, extending some miles back from the shore, and in nowise to be ascribed, by any stretch of imagination, to influences arising from the river front. It was also evident that in these instances, as in the few houses on the margin of the coves, other conditions existed fully capable of giving rise to malaria.

The embankment of the H. & C. W. R. R., on the eastern side of the north cove, shuts in a sort of ravine parallel with the shore, which probably formed the bed of the brook that is now turned through a small culvert further to the north. In this ravine, dead vegetation had accumulated to a considerable depth, and in rainy seasons must be placed under the most favorable conditions for fermentation. A depression running first easterly and then southerly from this point, and receiving the drainage from a wide water-shed, constitutes a veritable marsh throughout which the ground water stands actually at the level of the soil; and even on the adjoining places at a higher elevation, the wells which we examined were filled to within three or four feet of the surface. Still farther back, on the plateau whereon the village of Rhinebeck stands, and, indeed, wherever malarial disorders were said to exist, we found the same condition of soil saturation. On the shore of the cove itself, the dead vegetation was almost entirely of land origin, and was hardly sufficient in amount to occasion deleterious emanations.

As far as observation of the causation of malaria has extended, there is reason to believe that the poisonous ferment is generated rather by the decomposition of vegetable matter in a damp soil than on the surface, or where submerged; and experience warrants the opinion that flooding a miasmatic district is sometimes as effectual a remedy as draining it. Living submarine plants, of course, are not to be regarded as injurious to health, and it may be doubted if they can exert a seriously detrimental influence, even after detachment from their roots, while floating on water which is not stagnant, although if stranded on the shore in considerable quantity their decomposition might be hurtful. Hence, while not denying the possibility that under certain circumstances the condition of the larger coves might conduce to the perpetuation of malaria, other and more potent agents are so evident that these cannot be condemned from a purely sanitary standpoint, however objectionable they may be in other respects.

The case, however, is different as regards the smaller pond inclosed by the embankment of the H. & C. W. R. R. The culvert here is, according to both engineering reports, insufficient to permit free circulation of water, and, in addition to the vegetation decaying *in situ*, much drainage from buildings on the shore is received in the almost stagnant basin, the effluvia from which are very offensive, and doubtless capable of injuring health. It would seem reasonable to demand that the railway company provide for proper circulation of the water in this cove, but beside this measure, the local board of health should prevent the discharge of any organic refuse into the basin, and compel the riparian owners to remove nuisances from their own premises. The effectual abatement of malarial endemic fevers depends upon drainage of the saturated land bordering the coves rather than upon any operations relating to the water. The very term "marsh miasm," commonly applied to the malarial ferment, indicates the universal experience of the pre-eminent agency of soil-saturation in inducing the disease; and wherever thorough drainage has been accomplished, malarial fevers have been abolished.

ALFRED LUDLOW CARROLL, M. D.

The sanitary committee, to whom the reconsideration of the former reports on the condition of the above described coves was referred, concur in the views expressed by Dr. Carroll, and in the suggestions made for the improvement of the public health in that vicinity; and, as regards the smaller pond, recommend the adoption of the measures set forth in the report of Mr. Andrews, as published in the fifth annual report of the Board, namely: that, in addition to providing freer circulation of water, "the low places on the shores be filled as rapidly as possible, thus diminishing the area to be kept clean."

WOOLSEY JOHNSON, M. D.,
Chairman
ALFRED MERCER, M. D.

REPORT ON DIPHTHERIA AT GOUVERNEUR.

To the Sanitary Committee, State Board of Health:

Gouverneur is a rapidly-growing village of nearly three thousand inhabitants in the south-western part of St. Lawrence county, about thirty-five miles from Ogdensburg. It lies on both sides of the Oswegatchie river, a rapid and considerable stream, extensively used for lumbering, and at this point for mill power, flowing between banks that are abrupt and well elevated about fifteen feet above the stream. The country about is uniformly level, rolling land, the surface soil being alluvial sand and quick sand, not fertile; the under-lying rock is lime-stone which crops out near the village; above it is clay having an average depth beneath the surface, I was told, of some ten feet. The site of the village is broken by slightly elevated ridges, and one or two small streams flow through it, maintained by neighboring springs, on either side of the river into which they empty. Formerly forests of cedar and hemlock covered this locality; farther up the river there are said to be peat bogs from which some of its tributaries flow. Throughout this township and much of this region there is a remarkable degree of soil saturation. In most places, regardless of topography, water is reached within two feet of the surface; consequently throughout a considerable portion of the village, many of the cellars contain standing water, especially during wet weather; some of them are always wet. The wells throughout the village are sunk probably through the clay, and are from fifteen to forty feet deep, their contents rising pretty near the surface.

There is but one sewer in the village, in the main street, said to be the healthiest part. There is a public water-supply, but it is not used to any great extent, from popular prejudice. The water is slightly stained of a brownish color, probably from vegetable matter, but the taste is not unpleasant. It is taken from the river directly above the dam, at the center of the village, the stream being set back a considerable distance between the high banks.

In the monthly bulletin of this Board, the mortality of the town of Gouverneur has been recorded since May, 1884, with the exception of one month. In seventeen months one hundred and fifty-six deaths occurred. This represents an annual death-rate per thousand inhabitants of twenty. Of these, thirty per cent were under the age of five years. Of the number, eleven deaths were from cerebro-spinal fever, two from typhoid fever, one from measles, seventeen from scarlet fever, nineteen from croup and diphtheria, and nine from diarrhœa, making a total of fifty-nine deaths from zymotic or preventable diseases.

This, it will be observed, amounts to nearly thirty-eight per cent of the total mortality. During the same period the percentage of zymotic disease mortality for the entire State amounted to 25.9, which, including the cities of the State with their large summer mortality from diarrhœa, is considerably higher than it would be if only the rural population were taken. This mortality in Gouverneur is principally made up of cerebro-spinal fever, which occurred in almost every one of the months referred to, but has been much more prevalent since January last; of scarlet fever, which prevailed from December to May last; diarrhœa, occurring only in the summer months; and croup and diphtheria, which in our sanitary records are classed together on account of the frequent difficulty of distinguishing them apart, and which began to cause deaths in December, 1884, since which time there are but two months in which they failed to occur. It should also be noted that there were seventeen deaths from consumption during the period of time. About fifty per cent of the mortality occurred from zymotic diseases and consumption, or in other words, nearly half the deaths were from consumption, cerebro-spinal fever, scarlet fever, croup and diphtheria and diarrhœa.

This has been the reported mortality of the entire town; for the village alone all these proportions would be exaggerated, since beyond doubt most of the preventable deaths occurred in it.

December 4, in response to the representations of certain citizens of the village to the effect that diphtheria was alarmingly prevalent, and on the invitation of the local board of health, I went at the request of the Secretary of this Board, to investigate the facts and conditions at Gouverneur, in company with the health officer of both the village and town boards, Dr. J. B. Carpenter. Our inquiry was limited to the village, although the disease has prevailed throughout the town to less extent.

From him I learned that fifty-two cases of the disease had been reported to the town board since July last, and eleven deaths had occurred. The disease had culminated early in November, when four deaths occurred; for about four weeks there had been no deaths, and at the time of my visit there were but two persons sick with the disease.

Of the reported deaths under the head of croup and diphtheria, part were attributable to the former disease. This epidemic came on with, or followed after, one of scarlet fever, which, as noted above, prevailed from December to May last, and which was attributed to an imported case. Care had been taken to quarantine and afterward to fumigate in all cases known to the Board, and all children from families where the sickness occurred were excluded from school. With Dr. Carpenter I visited premises where cases existed or had been. The disease first extensively prevailed in a row of tenement-houses on the south, or less built up part of the village. Here the sanitary conditions had been very bad; the cellars were full of water, which had increased by recent rains; a single large privy, used by several families, was in a foul state, and all garbage and slops were thrown on the ground about the house. At this locality all this had been rectified under direction of the Board, the cellar being easily drained into an adjacent streamlet — since then no cases had occurred.

A similar experience attended another row of tenements in the same neighborhood, and subsequently cases developed in various parts of the village.

Without speaking in detail of these I will present what appeared as the possible and suspected causes of the prevalence of the disease.

First, in regard to the drinking water. As already remarked, the village has a public supply, taken from the Oswegatchie. It is pumped from the river just above the dam, which is about midway of its course through the village. The stream always contains quantities of logs, above and below the dam, and some of the citizens have thought that these were a source of unhealthfulness. However this may be, I see no reason why it should contribute in any way to causing diphtheria. But the stream may be polluted by the organic waste from the village. At present the only village sewer, and also the largest of the little streamlets which traverse the village empty into it below the dam; but some of the house waste already finds its way into the stream above the dam, and eventually a considerable amount will be likely to, as the village grows. Worse than this, however, the village cemetery is immediately on the south bank of the river, its area elevated and sloping rapidly toward it. Probably many of the graves extend below the ground water level, and at any rate the drainage is ultimately into the stream. It is only eighty or 100 rods above the intake. This cannot, therefore, be recommended as a safe place to take water; but as to its present condition Dr. Hailes will report a biological examination of a sample which I procured. I know of no objection to the purity of the water taken from a point above the village. The water is, however, objectionable to the people, and is but little used. As to its entering as a cause of the diphtheria, I ascertained that only two or three families that had been afflicted made use of it, and the first cases of this immediate prevalence occurred on the south side of the river, which has no public water supply. It is undoubtedly safer water than that of the village wells, which are sunk into soil admitting of such ready pollution. A sample from one of them will also be reported on by Dr. Hailes.

The high level of the ground water is in my opinion, as also of health officer, Dr. Carpenter, the most important element in maintaining diphtheria here. It is oneof the recognized causes of the disease, as is shown by numerous studies of its development, among which reference may be made to a report to the Massachusetts Board of Health, in 1876, by Dr. J. G. Pinkham, of an epidemic in Lynn, where eighty per cent of the cases occurred on damp, undrained soil, and especially to the more recent report of Mr. James T. Gardiner to the New York State Board, of which he is the consulting engineer (see Fifth Annual Report), upon an epidemic in Ogdensburg, where almost identical conditions existed as here. The dampness or flooding of cellars resulting from high ground water acts, as Mr. Gardiner suggests, in two ways: by predisposing to a catarrhal condition of the air passages, which renders them more vulnerable to diphtheria, and, also, by poisoning the air of the dwelling with decomposing matter carried in with the soil water. A little reflection on the part of the villagers will convince them of the reasonableness of this. Having no sewers, all slops and excremental matters are deposited on the ground about the dwellings. Kitchen waste is thrown generally upon the surface, and privy accumulations are either on the surface or in a shallow pit often containing soil water, for I believe no sort of removal system is attempted. In such a porous soil these sink readily, are soon taken into solution in the ground water and find their way into the cellar or the well. In the former case there is every facility for decomposition to take place, and the upward draught of the warm air above distributes the products of decomposition through the dwelling.

That this is a very important element in the existence of diphtheria in Gouverneur is seen from the fact that a large proportion of the cases have occurred in houses in which there has been standing water in the cellars. In others, where there is no actual standing water, it will, no doubt, be found that there is an unhealthy degree of moisture in the bottom and sides of the cellar. It is further seen from the fact that it disappeared from the tenement-houses, where it first broke out, as soon as drainage of the cellars was effected, and on the main street, through which there is a sewer and the cellars are dry, only two or three cases have been found, and these, there seems good reason to believe from what I learned, were traceable to the third apparent element in the production of the disease in the village — contagion. This was generally guarded against by the management of the Board, but one case failed of being reported to them, and from it the disease was taken to the schools. One of the children taken with the disease on Main street sat beside a child from this family.

Some of the cases were not traceable to either of the causes I have mentioned, and were due I believe to local insanitary conditions, in which probably the well water had a part. I found a case already existing and the third or fourth case in the family. The house was very dilapidated; the well close by the kitchen door, outside of which slops were thrown, and fifteen or twenty feet away was the privy and a stable. (See report of Dr. Hailes upon this water.) The premises have a bad sanitary record of typhoid fever and other zymotic diseases. Every epidemic of diphtheria of long duration shows instances similar to this, the local insanitary conditions finding expression in the prevailing epidemic by preference.

My conclusion is that the prime factor in the prevalance of diphtheria in Gouverneur is the remarkable high level of soil water. This is, to be sure, no new thing here, neither is the disease. Dr. McFalls, who has practiced there for many years, tells me that the disease has prevailed for a long time, not only in the village but in the surrounding country, where similar conditions exist. During the past season this has been intensified by unusually wet weather. By reason of it, as Dr. Carpenter states, the potato crop has been a failure, these and other vegetables rotting in the ground. It is further increased by the very rapid rate at which the village is growing, for in few places have I seen so many houses new or in process of erection. It is further shown, I think, by the considerable death-rate from consumption, and in the same connection the unusual number of deaths from cerebro-spinal fever, here and elsewhere in this region, is of interest. In the forthcoming sixth annual report of this Board, the Secretary, Dr. Carroll, calls attention to soil saturation as the best established factor in the causation of the latter disease, very clear evidence of which appears in Dr. Meredith Clymer's study of the outbreak of it in New York in 1872. With a high death-rate, nearly half the mortality has been from diseases that may be considered more or less preventable. And they are deaths that, as far as we know them, are especially preventable by drainage and cleanliness. Whatever else may enter into the causation of diphtheria and other diseases here, I have no hesitation in saying that drainage of the soil and lowering the water in it to a safe level below the cellar bottoms is the first necessity. How this may be effected, and to what extent a system of sewerage which is likewise desirable might be added to it, I will not undertake to speak of, as advice in this should be given by a civil engineer. I am sure, however, that a remedy is very feasible from the topography of the village.

With regard to the public water at present in use, while it does not seem to be an evident cause of prevailing disease, there is reason to believe that it is already to some degree polluted, and with the increase of the village, the introduction of sewers and the growth of the cemetery it would become more so, taken from the present point. It would be much better to take it from some point entirely above the village, where the current is rapid, the animal waste entering it slight in amount, and the water doubtless wholesome and good. Of this I have no knowledge, however, from personal observation, and perhaps some more desirable source may be found to take the place of the present, which cannot be commended. With these improvements the death-rate of Gouverneur would be materially diminished.

Throughout the township the same condition of soil saturation undoubtedly exists, and has the same bearing on the production of diphtheria, some of the cases of which, reported in the bulletin referred to in this report, occurred outside the village limits; the remedy is the same for the isolated farm-house as for the village residence, and is feasible generally, or ought to be, to make the house fit for habitation.

Respectfully,
F. C. CURTIS.

ALBANY, *December* 10, 1885.

DR. A. L. CARROLL, *Secretary State Board of Health:*

DEAR SIR — Upon biological examination of the specimens of water sent to me from Gouverneur, I respectfully report as follows:

LOCALITY.	Date of culture.	Time of first appearance of micro-organisms.	Time of beginning of liquefaction of gelatine.	Extent of liquefaction in four days.	Chlorine in parts of 100,000.	Observations
Hydrant water, Oswegatchie river..... ...	Dec. 7..	36 hours..	3 days..	3-4 inch.	1	Micro-organisms quite numerous.
Hydrant water, Oswegatchie river.........	Dec. 7..	36 hours..	3 days..	1-2 inch.	1	Micro-organisms quite numerous.
Water from tenement-house, Wm. Whitney.	Dec. 7..	24 hours..	2 days..	2 inches	10	Micro-organisms exceedingly numerous and liquefy gelatine rapidly.
Water from tenement-house, Wm. Whitney.	Dec. 7..	24 hours..	2 days..	2 inches	10	Micro-organisms exceedingly numerous and liquefy gelatine rapidly.

The water from the tenement is very bad — ten parts of chlorine, and the bacteria exceedingly numerous and active. The river water is better; possesses very small proportion of chlorine (one part) but it cannot be recommended with safety on account of the short time required to liquefy the gelatine (three days) and the number and activity of its micro-organisms.

Very truly,
WM. HAILES.

REPORT OF THE SANITARY COMMITTEE ON THE INVESTIGATION OF A WATER SUPPLY AT SYRACUSE.

To the State Board of Health:

The common council of the city of Syracuse, on the 23d of March, 1885, passed an ordinance granting to "the Central City Water-Works Company" a franchise for supplying the city of Syracuse with water which, "upon analysis by the State Board of Health, shall be pronounced to be pure and wholesome."

This was practically a request from the city of Syracuse that analyses should be made of the water proposed to be furnished, and that this Board should state whether these chemical analyses showed the water to be up to the standard of purity as commonly accepted for potable purposes.

Doubtless the object of this request was that the analyses might be made by such men and such methods as this Board is in the habit of employing in its chemical analyses of water.

Under this view of the case the Board caused seven samples of water to be analyzed, taken from the Oneida lake; two by Prof. Willis G. Tucker, of Albany, and five by Prof. S. A. Lattimore, of Rochester University. The results of these analyses are herewith appended. They show that in parts by weight per hundred thousand the results range as follows: Total solids, from 14.22 to 16.80; chlorine, from 0.32 to .454; free ammonia, from trace to .0027; albuminoid ammonia, from .002 to .0045.

Certainly on chemical grounds *alone* no exception could be taken to the samples of the water analyzed; and, in response to what the Board interpreted to be a request from the common council of Syracuse, a resolution was passed at the meeting of the Board on November 16, 1885, stating that these analyses had been made by the official analysts of the State Board of Health, and that the water, according to accepted chemical standards of analysis, was found to be pure and wholesome.

It was not to be supposed that because the water was pure from a chemical standpoint, that, therefore, from a sanitary point of view it was proper as a water supply for the city of Syracuse. In the discussion at the meeting previous to the adoption of the resolution the Board was unanimous in the opinion that a chemical test is but one of the methods necessary to determine the potability of a water; nor did the Board express any opinion as to whether the chemical condition of the water of Oneida lake, at the time the samples were taken, would be its uniform condition the year through. All that the resolution was intended to express was the fact that the samples analyzed were pure according to received chemical standards.

Notwithstanding the careful wording of the resolution expressly limiting its meaning, it was found that its scope was misunderstood both by the common council of Syracuse and by the citizens at large.

The citizens' committee of Syracuse then requested a full investigation and explanation of this subject by the State Board of Health; in response to which this committee, having been empowered by the Board, held a public meeting in the city of Syracuse, December 8, 1885, of which due notice was given to all parties interested, in order that a more correct understanding might be arrived at regarding the wishes of the citizens of the city of Syracuse, and the views of the Board with reference to the sanitary examination of water supplies.

The town hall was secured by the citizens for the meeting, and its management was assumed by a citizens' committee. Your committee was represented by the President, Dr. Edward M. Moore, the Secretary, Dr. Alfred L. Carroll, together with Dr. Alfred Mercer and consulting engineer James T. Gardiner.

At half-past ten A. M. when the committee arrived at the hall, it was well filled with members of the common council and other prominent citizens, his honor the mayor being also present. The meeting was presided over by Mr. Duguid, president of one of the city banks.

As the citizens desired to know exactly what the State Board had done in the matter, President Moore explained the action above described, and in answer to numerous questions, the views of the Board with regard to the sanitary examination of water supplies were set forth by Dr. Moore, Dr. Carroll and Mr. Gardiner. The recommendations of the committee with regard to the leading outlines of the sanitary examination of a potable water supply were as follows:

1. Before any supply of water can be pronounced pure and wholesome for a city's use, it should be submitted to chemical analysis, the samples being taken at such times during the year and during such varying conditions of the water as would represent the chemical character of the water in its principal changes.
2. It should be submitted to biological analysis, the samples analyzed being taken at all seasons of the year and in all conditions of the water, when these conditions are quite variable.
3. Sanitary examination should be made to determine all the sources from which impurities may reach a water supply, and the question of a probability of its remaining pure in the future, and the possible means of sanitary protection of the water should be carefully considered. This sanitary survey is considered the most important of all.

CHEMICAL ANALYSIS.

By chemical analysis and the examination of the chemist there may be determined the amount of mineral matter in the water and its character. Whether the water is a hard or a soft water, and the degree of hardness may be estimated. A part of this analysis of the mineral constituents is the determining of the amount of chlorine, which is sometimes an indication of the amount of sewage pollution of water.

The amount of putrescible organic matter in the water may also be approximately determined; and analysis will often indicate whether the water contains the products arising from putrefaction.

The character also of the organic matter in the water is sometimes indicated by the analysis. The color of the water and its taste and odor may also be made the subjects of examination in the chemical laboratory. In general, therefore, the examination of water by the chemist determines its hardness, the amount of organic matter liable to putrefy which it contains, its taste, odor and color, and sometimes the character of the organic matter in solution.

While these facts are of great importance, they are by no means the only things it is necessary to know before declaring a body of water to be a wholesome supply for city purposes or for potable uses. Chemistry cannot determine whether water contains those micro-organisms or bacteria which are the cause or carriers of disease. It can rarely determine the source of the contaminating matter found to be present. Some of the most severe epidemics have been caused by water where the actual amount of organic matter was exceedingly small. Frankland, the celebrated English sanitary chemist, having carefully analyzed a measured quantity of water, added to it one-thousandth part of its volume of the dejecta of a cholera patient, and was unable, by chemical analysis, to detect any difference that would have awakened suspicion of danger. This experiment of Frankland's well illustrates that a water may be freighted with the fatal germs of disease and yet chemistry be unable to reveal it.

BIOLOGICAL ANALYSIS.

Biological analysis has recently been brought into use as a method of determining approximately the amount of bacterial life contained in the water. This is accomplished by putting into a sterealized gelatine solution a drop of the water to be tested, and excluding the air. Where the water contains a large number of spores or developed bacteria their rapid multiplication soon breaks down the gelatine solution. It is assumed that the relative rapidity at which the gelatine solutions are broken down and the comparative number of bacteria produced are a measure of the relative number of bacteria contained in the different waters tested.

While the biological analysis of water is as yet too new to be an absolute guide, yet its results may throw much light on the question of the sanitary character of a water supply. But notwithstanding the valuable aids of chemistry and biology in determining the purity of water, it is clearly proven by the history of disease that a supply of potable water for a city might be in serious danger of creating an epidemic and yet that fact not be discoverable either by chemical or biological analyses. The *sanitary survey of the water-shed and sources from which the water is derived is often the most important method of determining the wholesomeness of the water.*

SANITARY SURVEY.

In a sanitary survey the geology and topography of the water-shed and the artificial and natural storage basins are considered in connection with the uses made by man of the water-shed and water-courses. The disposal of all human and manufacturing wastes is examined in its relation to the water supply; and should it be found that objectionable matter is likely to reach the proposed water supply, the possibility of protecting the water from such pollution, both in the present and future, is carefully considered.

The sources of pollution of water may not be constant, but may be operative only at certain seasons of the year. Where such conditions are suspected it is necessary to examine the waters throughout the season. Some lakes, the water from which is perfectly palatable through the autumn, winter and spring, are liable during the summer to the growth of low forms of vegetable organisms in such quantities that their decay imparts to the water a most disagreeable taste and odor. In comparing a number of water supplies, while chemical analysis may determine the chemical purities of the waters to be compared, it by no means follows that the water chemically purest is the best. A sanitary survey is necessary to determine the sources of these impurities; for the one least in amount may possibly be the most dangerous.

The water which was determined to have produced the epidemic in Plymouth during the past year was chemically the purest of the three sources of supply for that town. The epidemic was traced to the excrement of one typhoid patient being thrown upon the snow and washed into the stream which supplied the reservoir.

There are around Syracuse a variety of sources of water supply of greater or less value from an engineering and sanitary point of view. Each of these is probably liable to its particular class of dangers which may occur at different seasons of the year.

The city is, of course, desirous to secure the best water. The only method of determining which is the best among these sources which are admitted to be practicable from an engineering and financial standpoint, is to thoroughly examine them by chemical, biological and sanitary means at the seasons when the special weaknesses of each supply are likely to be most fully developed.

To complete a work of such magnitude in a thorough manner and prepare an exhaustive report would doubtless require a year; but without such complete survey the State Board of Health would not be willing to pronounce any one of the water supplies as most desirable for the city of Syracuse from a sanitary point of view.

In response to the question whether the State Board of Health would be willing to undertake to examine the possible water supplies of the city of Syracuse, and report to the city the best one from a sanitary standpoint, President Moore replied that the Board would undertake the work, provided they were requested to do so by the common council of the city, and provided the appropriations by the Legislature were sufficient for the purpose.

As regards the possibility of the purification of the water it was stated by the committee that the grosser particles in suspension in water might be removed by filtration, but that impurities in solution and micro-organisms, which are the carriers of disease, could not be so removed with any certainty in treating water on a large scale through a series of years. While laboratory experiments have been successful, the efforts made in this direction in treating large quantities of water have eventually been failures.

The question was asked the committee, whether from a sanitary point of view it was more desirable that a water supply should be under the control of the city rather than the property of a private company. President Moore answered that the committee would prefer to consider this matter before answering. The committee have considered the question, and after reviewing the experience of the various towns and cities, whose water supplies have come under the observation of this Board, they are of the opinion that as a general rule where water supplies are directly under the control of those most interested in their purity, that the purity of the supply has been most carefully guarded; and that where the water supply has been either endangered or its quality deteriorated, it has been most easy to make the necessary changes, or to carry out plans for protecting the water when the supplies have been under municipal management.

Respectfully submitted,

WOOLSEY JOHNSON, *Chairman.*
ALFRED MERCER, M. D.
EDWARD M. MOORE, M. D., *President.*
ALFRED L. CARROLL, M. D., *Secretary.*

ROCHESTER, N. Y., *October* 14, 1885.

DR. A. L. CARROLL, *Secretary State Board of Health, Albany, N. Y.:*

DEAR SIR — I received from Dr. Alfred Mercer, of Syracuse, October 6th, four samples of water for analysis. The labels indicated that they had been taken at Shakelton's Point, Oneida lake, 1,000, 2,000, 3,000 and 4,000 feet from shore, at the bottom of the lake. The samples are designated below by the numbers 1, 2, 3 and 4, respectively. The analysis gives the following results :

Parts per 100,000 *by Weight.*

	No. 1.	No. 2.	No. 3.	No. 4.
Total solid residue..........	14.23	14.22	14.21	14.23
Chlorine....................	0.454	0.452	0.453	0.454
Ammonia, free.............	0.000	0.000	0.000	0.000
Ammonia, albuminoid.......	0.002	0.002	0.002	0.002

In each sample animalcula were present, of the class of entomostraca common to all our lake waters. The microscopical examination revealed a number of species of plants and animals invisible to the unaided eye, but of the same species as those found in Hemlock lake, from which this city is supplied, and in other lakes of western New York.

Both the chemical analysis and the microscopical examination show that these four samples are identical in character. The minute life is such as is common in all pure waters exposed to the air and sunlight, while the chemical analysis shows its suitability for domestic use. The solid residue — eight and a quarter grains per gallon — consists chiefly of calcium carbonate and renders the water slightly hard.

ROCHESTER, N. Y., *November* 9, 1885.

Dr. A. L. CARROLL, *Secretary State Board of Health, Albany, N. Y.:*

DEAR SIR — On the 6th inst. I received a sample of water, accompanied by a letter, from Dr. Alfred Mercer, requesting me to filter a part of the water and make separate analyses of both the filtered and the unfiltered portions. The water was clear, and a few white animalcula were the only floating objects visible to the eye. The following are the results in parts by weight for 100,000:

	Filtered.	Not filtered.
Total solid residue	14.5	14.5
Chlorine	0.45	0.45
Ammonia, free	trace	trace
Ammonia, albuminoid	0.002	0.002

The microscopic examination showed a few entomostraca and a few other minuter forms of life such as are common in the lakes of western New York.

Very respectfully,
S. A. LATTIMORE,
Analyst, S. B. H.

ANALYSIS OF ONEIDA LAKE WATER.

ALBANY MEDICAL COLLEGE, *November* 10, 1885.

Received from Dr. A. Mercer, Syracuse, N. Y., November 5, 1885:

FILTERED WATER.

(*Parts per* 100,000.)

Color and appearance	Light greenish tint.
"	Transparent.
Odor at 100 degrees F	None.
Chlorine	0.32
Free ammonia	0.0027
Albuminoid ammonia	0.0035
Total solids	16.40
Loss on ignition	5.20
Mineral matter	11.20

CONCLUSIONS.

This (filtered) water differs but little from the unfiltered. Judged by these analytical results it is of good quality, but in order to form a positive opinion as to the quality of a large body of water, numerous and more elaborate analyses should be made. The above form was adopted more particularly with a view to the examination of private supplies.

WILLIS G. TUCKER,
Analyst.

UNFILTERED WATEI

(*Parts per* 100,000.)

Color and appearance	Light greenish tint.
"	Transparent.
Odor at 100 degrees F	None.
Chlorine	0.32
Free ammonia	0.0027
Albuminoid ammonia	0.0045
Total solids	16.80
Loss on ingnition	5.20
Mineral matter	11.60

CONCLUSIONS.

The color, appearance and odor of the water are unobjectionable; chlorine is low, and free and albuminoid ammonia are low. Total solids and loss on ignition not excessive. Judged by above analytical results, the water is of good quality.

WILLIS G. TUCKER,
Analyst.

To the Sanitary Committee:

The question of the purity of the ice of Onondaga lake having been referred to me, I took occasion at the meeting of the sanitary committee on December 8th, to have a hearing of all parties interested in the matter. Ice for the use of Syracuse is furnished to several parties; Sawmiller, Knapp and others are among the ice men. The ice is cut from Onondaga lake, Oneida, Cazenovia and Cayuga lakes, and from several points on the Erie canal.

It appears that the city board of health, on the recommendation of Dr. Englehardt, forbade Messrs. Sawmiller Bros. from selling, for purposes where it comes in direct contact of food or drink, the ice cut from Onondaga lake. This firm claimed that such action was unjust, as the ice sold by them was pure, and no more subject to sanitary condemnation than much of the other ice sold in the city.

The request for an examination of the subject by the State Board of Health comes from the city board of health of Syracuse. I have already made personal examination of the sanitary condition of most of the waters flowing into this stream; such additional knowledge as was needed I obtained from witnesses at the hearing on December 8th. The principal stream entering Onondaga lake in the city of Syracuse is Onondaga creek, into which flow all the principal sewers of the city. An examination of the condition of this stream proves that its waters are very grossly polluted.

Onondaga is a small lake and quite narrow. A large proportion of its water is derived from Onondaga creek; the ice of the creek is, therefore, open to suspicion; but no positive judgment can be made of the degree of pollution of the ice without a series of analyses of samples of ice cut from the lake at properly selected points.

Samples of the water at the points where the ice is cut should also be taken. I, therefore, advise that the committee recommend the city board of health of Syracuse to have a specimen of ice cut at the point where Onondaga creek enters the lake; another specimen two thousand feet north of this point; another two thousand feet north-west of the last point, and two more specimens within the next mile, in the direction of Liverpool, and that specimens of the water from the lake be taken at such point where the ice is cut.

The specimens should be carefully labeled when taken, to insure that the position of each is a matter of certain record. The city board of health, however, should have these samples submitted to chemical and biological analysis by the analyst of the State Board of Health, in Albany. When the results of the chemical and biological analysis are at hand, and specimens of ice and water taken in the manner above described, it will be possible to form an opinion as to the safety of using the ice from Onondaga lake, as a supply for the city of Syracuse.

JAMES T. GARDINER,
Consulting Engineer.

The sanitary committee hereby approve the report of consulting engineer Gardiner, and advise that its recommendations be adopted by the Board and transmitted to the city board of health of Syracuse.

WOOLSEY JOHNSON,
ALFRED MERCER.

At a special meeting of the State Board of Health, on the 14th January, 1886, the report of the sanitary committee on the investigation of the water supply of Syracuse was adopted.

ALFRED L. CARROLL, M. D.,
Secretary.

January 15, 1886

THE SANITARY LAWS OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND, ALSO OF THE UNITED STATES OF AMERICA, AND OF THE IMPORTANT STATES OF THE UNION, TOGETHER WITH CASES DECIDED IN BOTH COUNTRIES ON DISPUTED POINTS ARISING OUT OF THE RIGHTS AND DUTIES OF BOARDS OF HEALTH, WHETHER SPECIFICALLY CONSTITUTED AS INDEPENDENT BODIES, OR AS FORMING PART OF THE AUTHORITY IN WHICH IS VESTED THE GOVERNMENT OF CITIES, TOWNS AND VILLAGES AND RURAL COMMUNITIES IN BOTH COUNTRIES.

By HUGH WEIGHTMAN, M. A., of the University of Cambridge, England, author of "The Laws relating to the Medical Profession."

THE LAW OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND ON THE SUBJECT OF THE PUBLIC HEALTH.

The doing of any act by which the public health might be endangered, whether by the propagation of an infectious disease, or by erecting any establishment which might corrupt the air by noxious exhalations, was ever a great misdemeanor at common law.

The exposing, by carrying a child infected with small-pox along a public way, near to a dwelling-house, etc., to the great danger of infecting persons there passing, is a great misdemeanor at common law. *Rex* v. *Vantandillis*, 4 Maule & Selwyn, 73.

The first act on the subject of the public health, generally, relating to England, which calls for attention is the 23 and 24 Vict., chap. 77, amending some existing acts for the removal of nuisances and the prevention of diseases, and constituting certain bodies, therein named, the local authorities to execute the Nuisance Removal Act, and repealing all former enactments constituting a local authority for the execution of the Diseases Prevention Act (except those contained in the Metropolitan Local Management Act) and directing that the board of guardians or the overseers of the poor, as the case may be, where there is no board of guardians, shall be the local authority for executing the Diseases Prevention Act, who are thereby required to provide carriages for the conveyance of infected persons suffering from contagious or infectious diseases; and two justices at petty sessions, upon proper complaint, may order the removal of a nuisance on any private premises, and the guardians of any union, or parish not within an union, may at any time employ one of their medical officers to make inquiry and report upon the sanitary state of the union or parish.

Various statutes from the time of James I had been passed dealing with the subject of the public health, but so limited in their definitions and scope that with the exception of the Metropolitan

Local Management Act, and the 23 and 24 Vict., chap. 77, together with the 29 and 30 Vict., chap. 90 (styled the Sanitary Act of 1866), no attempt was made at comprehensive legislation on this subject until the year 1875, when an act was passed (38 and 39 Vict., chap. 55), entitled "An act for consolidating and amending the acts relating to Public Health in England." By this act, nearly all former enactments were repealed, especially the whole of the 23 and 24 Vict., chap. 77, except so far as relates to the metropolis.

The act now in force (38 and 39 Vict., chap. 55), known as the Public Health Act, defines sanitary powers and duties, constitutes sanitary districts and authorities, confers special powers upon urban sanitary authorities, dissolves all former constituted districts, forms new districts with powers of local government, and creates local and special rural authorities for the purpose of carrying out its provisions.

It deals with such subjects as sewers and drains, use of sewers by manufacturers, disposal of sewage, sewage works without the district, enforcement of privy accommodation, public necessaries in urban districts, cleansing streets and houses, cleansing ditches and removal of manure, definition of nuisances, procedure for abatement of nuisances, jurisdiction as to nuisances on ships, proceedings in case of joint nuisance, leaving other remedies unaffected, offensive trades in urban districts, seizure of unsound food exposed for sale. It also regulates powers for supply of water, and deals with the pollution of streams or wells. It further bestows very summary powers for interfering with the occupation of cellar dwellings, and the regulation and inspection of not only common lodging-houses, but also of houses (not common lodging-houses) let in lodgings, with a view to the prevention of overcrowding, etc.

Provisions are also contained against infection generally, as well as in lodging-houses and canal boats. Preventive measures are directed against epidemic diseases; hospitals and medicine are provided, infected persons are to be removed to hospital, and mortuaries as well as places for *post-mortem* examinations are provided. Returns are also directed to be made to authorities as to deaths.

Sanitary districts and authorities are constituted, local boards and improvement commissioners are incorporated, the election of members of such local boards regulated, also of certain improvement commissioners, the powers and duties of urban authorities defined, also of rural authorities.

A combination of districts may be effected for the prevention of epidemics, for the execution of works, and for the appointing of medical officer of health.

The appointment of inspectors of nuisances and the auditing the accounts of officers generally is minutely provided for. Of course the authorities are clothed with all powers for making rates, and borrowing on and mortgaging the same, but the working machinery by which the financial result is arrived at need not form the subject of this paper.

Special powers are conferred upon the urban sanitary authorities to inclose, under certain circumstances, suburban commons, to establish elementary schools, for the adoption and management of highways, bridges and turnpike roads, paving and lighting streets, providing places of public recreation, regulating markets and slaughter-houses, and for making regulations as to street obstructions, fires, etc., and public bathing places.

The powers of medical officers of health and other officers are defined and an appeal given from the sanitary authority; the powers of inspectors are also defined.

The rural authority may be invested with powers of urban authority, and a port sanitary authority constituted and existing at time of passing of this act may be constituted with similar powers to those of local authorities; rural authority may make by-laws as to lodging of hop-pickers and certain local interests specified. Such appear to be the main provision of the Public Health Act for England, not including the metropolis.

Of the PUBLIC HEALTH (METROPOLIS) ACT (35 and 36 Vict., chap. 79) the provisions are as follows, based upon many previous acts, commencing with 18 and 19 Vict., chap. 116 (1854-5).

UNDER THE HEAD OF SANITARY POWERS AND DUTIES.

Definition of nuisances. Notice of nuisances, power of entry and inspection. Procedure for abatement of nuisances. Cleansing and improving ditches. Periodical removal of manure. Jurisdiction as to nuisance on ships. Nuisance caused by offensive trades. Seizure of unsound food exposed for sale. Also further provisions as to drainage, smoke, offensive trades, etc., as contained in Metropolis (Management Water) Acts.

Occupation of cellar dwellings. Common lodging-houses, registration, regulation and inspection of, in Metropolitan Police District. Houses, not common lodging-houses, let in lodgings.

Provisions against infection in canal boats and otherwise. Prevention of epidemic diseases. Providing hospitals and medicine. Removal of infected persons to hospital. Providing mortuaries and places for *post-mortem* examinations.

Local Authorities. — Vestries and district boards are constituted to execute Nuisances Removal and Diseases Prevention Acts. In city of London, commissioners of sewers to execute Nuisances Removal Acts. Power is given to appoint committees, and penalty enacted for damaging property of authorities.

Port sanitary authority for port of London — Sundry powers are given to local government board as to recovery of expenses out of rates, and borrowing money on security of rates.

Much the same description of sanitary legislation has been enacted for SCOTLAND, principally by acts 30 and 31 Vict., chap. 101; 34 and 35 Vict., chap. 38; 38 and 39 Vict., chap. 74, and 39 and 40 Vict., chap. 31 and chap. 75.

With respect to IRELAND, such legislation appears to have commenced in 1851 with an act for regulating common lodging-houses (14 and 15 Vict., chap. 28), and to have been constantly superadded to almost every subsequent session of Parliament, including the year 1876, when the Rivers Pollution Act (39 and 40 Vict., chap. 75) was passed. The powers conferred by some twenty different statutes are in most respects analogous to those conferred by the English Public Health Acts.

The Contagious Diseases Acts, relating to the medical examination, detention, harboring of, and hospitals for prostitutes, at certain military and naval stations, form an important ingredient in the public health system, especially as far as relates to the army and navy, and the localities where they are constantly stationed. Those acts are the 29 and 30 Vict., chap. 35, the 31 and 32 Vict., chap. 80, and the 32 and 33 Vict., chap. 96.

The vaccination statutes for England, Ireland and Scotland respectively are very voluminous; vaccination is made compulsory and inoculation forbidden. In the case of an illegitimate child the duty of the mother as to the vaccination of such child is defined. The act under which all former acts were consolidated, amended or partially repealed is the 30 and 31 Vict., chap. 84, and numerous intervening acts between it and 42 and 43 Vict., chap. 70, have supplemented the original provisions.

The adulteration of food and drugs is provided against by statutes extending over a period of nearly fifty years, from 6 and 7 Wm. IV, chap. 37, to 42 and 43 Vict., chap. 30, and relate to Great Britain. There has been special legislation as to Ireland from 1 and 2 Vict., chap. 28, to 41 and 42 Vict., chap. 52, and the efforts to regulate the trade in intoxicating liquors throughout the United Kingdom embraces the period from 1660 to 1876, under the statute law revision (39 and 40 Vict., chap. 20).

Additional legislation, almost from year to year up to the present time has supplemented the statute law hitherto referred to, relating to the public health. The 46 and 47 Vict., chap. 35 — the Diseases Prevention (Metropolis) Act, 1883 — gives power to the managers of any hospital, asylum or work-house to contract for reception of cholera patients subject in the case of an asylum to the consent of the local government board, and in case of a work-house subject to provisions of Metropolitan Poor Act of 1867. And vestries and district boards may borrow money for such purposes. Wharves and landing places for embarkation of patients are required to be provided and expenses authorized. Local government board shall be deemed to have assigned to port of London the powers had assigned to them.

46 and 47 Vict., chap. 37 — The Public Health Act (support of sewers), Amendment Act, 1883 — relates to construction or maintenance of any works, under the title of "Sanitary Works," of sewerage, drainage, sewage disposal, lighting or water supply, etc.; also, with respect to mines, whether the land under which such

sanitary work is situated is or is not vested in the local authority, or is or is not wholly or partially dedicated to the public, and no compensation can be demanded for any right of support required, lateral or virtual, nor on the other hand is any liability incurred by any person working mines in a reasonable manner for any damage to a sanitary work.

46 and 47 Vict., chap. 59 — Epidemic and other Diseases Prevention Act, 1883 — enables sanitary authorities in England and Ireland to borrow money for the purposes therein enumerated.

46 and 47 Vict., chap. 48, empowers the establishment of temporary cholera hospitals in Ireland.

RECENT LEGISLATION ON THE SUBJECT NOT PREVIOUSLY REFERRED T

Powers for supply of water. 41 and 42 Vict., chap. 25, §§ 8, 10.

Power to invest urban authority with powers of rural authority. 41 and 42 Vict., chap. 25, § 11.

Houses in rural districts not to be built or rebuilt without supply of water. 41 and 42 Vict., chap. 25, § 6.

Transfer of buildings by guardians to rural authorities for use as an infectious hospital. 42 and 43 Vict., chap. 54, § 14.

Providing cemeteries. 42 and 43 Vict., chap. 31.

Cemetery without district. 42 and 43 Vict., chap. 31, § 2 (2.)

England.— General Law. 41 and 42 Vict., chap. 16, § 101.

Factories and workshops to be kept in cleanly state, ventilated and not overcrowded. § 3.

Notice by inspector to sanitary authority of neglect of sanitary provisions, and action of sanitary authority thereupon. § 4.

Factories, workshops and workplaces not subject to Factory Acts, if not kept in cleanly state, or not ventilated, or if overcrowded, to be deemed nuisances.

In the Metropolis. (E.) 41 and 42 Vict., chap. 16, § 101.

Elsewhere in England. 41 and 42 Vict., chap. 16, § 101.

In Scotland. 41 and 42 Vict., chap. 52, § 107.

In Ireland. 41 and 42 Vict., chap. 16, § 106 (11.)

Fencing of certain machinery in factories. 41 and 42 Vict., chap. 16, § 5.

Power to give notice requiring fencing of other machinery, or of dangerous vats and structures in factories or workshops, or fixing of insecure or replacing of faulty grindstones and procedure thereon. 41 and 42 Vict., chap. 16, §§ 6–8.

Restrictions on children, young persons and women cleaning machinery in motion, or working between parts of self-acting machinery. 41 and 42 Vict., chap. 16, § 9.

Period of employment, and regulations as to meal-time in cases of children, young persons and women employed in textile factories, non-textile factories and workshops. 41 and 42 Vict., chap. 16, §§ 11, 15, 17, 18.

Children and young persons belonging to same family employed in domestic factory or workshop. 41 and 42 Vict., chap. 16, § 16.

Fixing and notice of period of employment, meal-times, and mode of employment of children. 41 and 42 Vict., chap. 16, § 19.

Prohibition of employment of children under ten. 41 and 42 Vict., chap. 16, § 20.

Prohibition of employment of children, young persons and women on Sunday. 41 and 42 Vict., chap. 16, § 21.

Holidays and half holidays in factories and workshops. 41 and 42 Vict., chap. 16, § 22.

Children or young persons under sixteen not to be employed in factories without certificate of fitness; regulations as to certificates. 41 and 42 Vict., chap. 16, § 27.

Power to occupiers of workshops to obtain certificates of fitness, etc. 41 and 42 Vict., chap. 16, § 28.

Power of inspector to require discontinuance of employment of child or young person, as incapacitated, production of surgical certificate of capacity. 41 and 42 Vict., chap. 16, § 29.

Further provisions as to certificates of fitness; power of inspectors to annul certificates in certain cases. 41 and 42 Vict., chap. 16, § 30.

Notice to inspector and certifying surgeon of accidents causing death or bodily injury; investigation and report by surgeon. 41 and 42 Vict., chap. 16, §§ 31, 32.

SPECIAL PROVISIONS.

Limewashing and washing of factories and workshops. 41 and 42 Vict., chap. 16, § 33.

Painting, washing and limewashing of bake-houses. 41 and 42 Vict., chap. 16, § 34.

Restrictions on use of rooms in bake-houses for sleeping places. 41 and 42 Vict., chap. 16, § 35.

Ventilation by fan in certain factories and workshops. 41 and 42 Vict., chap. 16, § 36.

Protection of children, etc., employed in web spinning. 41 and 42 Vict., chap. 16, § 37.

Prohibition of employment of children or young persons in certain factories and workshops. 41 and 42 Vict., chap. 16, § 38, sch. I.

Prohibition of taking meals or remaining during meal-time in certain factories, etc.; power to extend prohibition to other factories, etc., by order of Secretary of State. 41 and 42 Vict., chap. 16, § 39, sch. II.

Period of employment and times for meals in printworks and bleaching and dyeing works. 41 and 42 Vict., chap. 16, § 40.

Power to extend to classes of workshops, prohibition of employment of children and young persons under sixteen, in factories without certificate of fitness. 41 and 42 Vict., chap. 16, § 41.

Public Health Act, 1875 (38 and 39 Vict., chap. 55), repeals

The whole of 11 and 12 Vict., chap. 63. P. H. A., 1848, common lodging-house, Ireland.

The whole of 14 and 15 Vict., chap. 28. C. L. H. Act, 1851, except as far as relates to M. P. D.

The whole of 16 and 17 Vict., chap. 41. C. L. H. Act, 1853, except as above.

The whole of 18 and 19 Vict., chap. 116. Diseases Prevention Act, 1855, except so far as relates to the Metropolis.

The whole of 18 and 19 Vict., chap. 121. Nuisance Removal Act for England, 1885, except as above.

The whole of 21 and 22 Vict., chap. 98. Local Government Act, 1858.

The whole of 23 and 24 Vict., chap. 77. Act to amend Acts for Removal of Nuisances and Prevention of Diseases, except as above.

The whole of 24 and 25 Vict., chap. 61. Local Government Act, 1858; Amendment Act, 1861.

The whole of 26 and 27 Vict., chap. 17. Local Government Act; Amendment Act, 1863.

The whole of 26 and 27 Vict., chap. 117. Nuisances Removal Act for England; Amendment Act, 1863, except as above.

The whole of 28 and 29 Vict., chap. 75. Sewage Utilization Act, 1865, except as far as relates to Scotland and Ireland.

The whole of 29 and 30 Vict., chap. 41. Nuisances Removal Act (No. 1), 1866, the whole act except as relates to Metropolis.

29 and 30 Vict., chap. 90. The Sanitary Act, 1866; parts I, II, and III, except so far as relates to Metropolis, or to Scotland or Ireland.

The whole of 30 and 31 Vict., chap. 113. Sewage Utilization Act, 1867, except so far as relates to Scotland or Ireland.

The whole of 31 and 32 Vict., chap. 115. Sanitary Act, 1868, except as far as relates to Metropolis.

The whole of 32 and 33 Vict., chap. 100. Sanitary Loans Act, 1869, except as above.

The whole of 33 and 34 Vict., chap. 53. Sanitary Act, 1870, except as above.

The whole of 35 and 36 Vict., chap. 79. Public Health Act, 1872, except as above.

The whole of 37 and 38 Vict., chap. 89. Sanitary Law Amendment Act, 1874, except so far as relates to the Metropolis or the Metropolitan Police District.

Of the above acts, the following, namely: 'The Public Health Act, 1848,' and 'The Local Government Act, 1858,' and 'The Local Government Act, (1858) Amendment Act, 1861,' and 'The Local Government Act, Amendment Act, 1863,' are in this act (38 and 39 Vict., chap. 55), referred to as 'The Local Government Acts.'

At an election for a member of a local board, V. and M. were the only candidates; M. was declared to be elected, he having obtained 94 votes, and V. 89. V., without the consent of the Attorney-General, preferred an information under the P. H. Act (1875), Schedule II, R. 69, against W., charging him with fabricating in part the voting paper of D., a person entitled to three votes at the election; but the justices dismissed it on the ground that V. was not a "party aggrieved" within the P. H. Act, 1875, § 253, and therefore that the consent of the Attorney-General was necessary. *Held*, that the dismissal of the information was wrong within the meaning of that statute. *Verdin* v. *Wray*, 2 L. R. Q. B. Div. 608; 25 W. R. 274; 46 L. J. Q B. Div. 170; 35 L. T. (N. S.) 942.

Generally.—Where a local board of works attempted to exercise their arbitrary powers without leaving to a person affected thereby the right of appeal given by the act, the Court of Chancery restrained them by injunction from so doing, until the question should be determined by the proper tribunal. *Tinkler* v. *Wandsworth District Board of Works*, 1 Giff. 412; affirmed on appeal, 2 DeG. & J. 261.

Where there is a doubt whether the arbitrary powers given to local boards are properly exercised it is the duty of the court to take care that the checks appointed by the Legislature have the operation in favor of the persons affected. *Ib.* Where a board constituted by an act of Parliament is authorized by it to delegate any of its powers to a committee, the powers so conferred upon the committee must be exercised by them acting in concert; and it is not competent to the committee to apportion among themselves the duties so delegated to them; and one of them acting alone, pursuant to such appointment, cannot justify his acts under the act of Parliament. *Cook* v. *Ward*, 2 L. R. C. P. Div. 255; 25 W. R. 593; 37 L. T. (N. S.) 893; C. A. affirming judgment of the C. P. Div.; 25 W. R. 350; 46 L. J. C. P. Div. 554.

A board having statutory power to consent in writing to a particular act is not bound by tacit acquiescence. *Ib.*

A provisional order of a Secretary of State empowering a local board of health to put in force the power of the Land Clauses Act of 1845 (8 and 9 Vict., chap. 18) with respect to the purchase of lands otherwise than by agreement, is nothing more than a substitution for proceedings before a standing orders committee, and has no force or validity until confirmed by act of Parliament, and cannot be brought up by *certiorari* for the purpose of being quashed. *Frewer* v. *Hastings Local Board of Health*, 11 Jur. (N. S.) 670; 34 L. J. Q. B. 159; 13 W. R. 678; 12 L. T. (N. S.) 346.

A corporation being, as the sanitary authority of a city, duly empowered to take lands specified in the schedule to its provisional order, for the purpose of public improvements, served notice to treat upon the trustees of a charity, who were the owners of the lands. The lands comprised in the notice were more than were actually required for the purpose of the work. *Held*, that the cases deciding that a railway company cannot take compulsorily more land than is actually required for its works did not apply to a corporation taking lands for public improvements, and that the corporation was entitled to take compulsorily the whole of the land comprised in the notice. *Quinton* v. *Bristol* (*Mayor*, *etc.*), 43 L. J. Ch. 783; 22 W. R. 434; 17 L. R. Eq. 523, V. C. M.

Where a local act required the consent of commissioners to new streets becoming highways to make the inhabitants liable to repair them, an order of the local board on owners to repair a street in respect of which such consent had not been given, is lawful inasmuch as such street was not a highway repairable by the inhabitants at large. *Willis* v. *Wallingtom*, 13 C. B. (N. S.) 865; 32 L. J. C. P. 86, Exch. Cham.

Under 11 and 12 Vict., chap. 63, § 55 (repealed by 21 and 22 Vict., chap. 98, §§ 32, 33) local boards of health have no general power to make by-laws for carrying out the purposes of the act, but only such by-laws as are authorized by section 55. *Reg.* v. *Wood*, 5 El. & Bl. 49; 3 C. L. R. 1134; S. C., *nom. Reg.* v. *Rose*, 1 Jur. (N. S.) 802; 24 L. J. M. C. 130.

A by-law, "that all occupiers of any premises within the district shall properly clean and remove all snow, or other obstructions, from the foot-path and channel opposite their respective premises, before nine of the clock in the forenoon of each day," was bad. *Ib.*

An information having been laid against an occupier under this by-law, and it being proved that the occupier had neglected to remove snow, it was objected that the by-law was bad; but the justice held that, inasmuch as it had been allowed by the Secretary of State, he could not entertain the objection; and he convicted the occupier. The court quashed the conviction on *certiorari*, though section 137 enacts, that no proceeding touching the conviction of any offender against the act shall be removable by *certiorari*, holding that the justice acted without jurisdiction. *Ib.*

A local board of health gave notice under 11 and 12 Vict., chap. 63, § 69, to the owner of a house abutting on a street, to level and pave it, and, in default of the owner, they did the work themselves. By the alteration so caused in the level of the street, the access to the house was rendered difficult and dangerous. *Held*, that the owner was entitled to compensation under section 144. *Reg.* v. *Wallasey Local Board of Health*, 4 L. R. Q. B. 351; 10 B. & S. 428; 38 L. J. Q. B. 217; 17 W. R. 766; 21 L. T. (N. S.) 90.

The Manchester Improvement Act (1851) enacts in section 17, that the expenses incurred by the town council in sewering and flagging a street shall be borne by the owners, "according to the extent of their respective houses and grounds lying alongside or adjoining to the said street." *Held*, that the owner of the ground at the end of a street forming a *cul de sac* was liable under this section, although a wall divided his property entirely from the street. *Manchester* (*Mayor, etc.*) v. *Chapman*, 18 L. T. (N. S.) 640; 16 W. R. 974; 37 L. J. M. C. 173, C. P.

By 11 and 12 Vict., chap. 63, § 69, and 15 and 16 Vict., chap. 42, § 13, a local board may require the owners of the houses in a street, not being a highway repairable by the inhabitants at large, to sewer, level and pave it, and in default of the owners the board may do the work, and the expenses are to be paid by the owners in proportion to their frontage, the proportion to be settled by the surveyor, and in case of dispute, by arbitration; and by 21 and 22 Vict., chap. 98, § 63 (repealed by 38 and 39 Vict., chap. 55), the apportionment of the surveyor shall be binding and conclusive upon every owner, unless within three months from the notice of the amount of the proportion, he shall, by written notice, dispute the same. A local board having duly proceeded under the act, and sewered, leveled and paved a street, and no notice having been given by an owner that he disputed the apportionment, the board sought to enforce before justices the payment of the proportion charged. *Held*, that it was still open to the owner to dispute his liability, and to show that the street was a highway repairable by the inhabitants at large. *Hesketh* v. *Atherton Local Board*, 9 L. R. Q. B. 4; 43 L. J. M. C. 37. The owner upon whom notice to level, etc., under 11 and 12 Vict., chap. 63, § 69, and 26 and 27 Vict., chap. 70, § 3, has been served, and who has not given notice of objection, is estopped from showing that the street in question is a highway repairable by the inhabitants at large. *Reg.* v. *Linesey*, 2 L. T. (N. S.) 470, Q. B.

The word "street" in the Towns Police Clauses Act, 1847, and the Public Health Act, 1848 (the latter repealed), means a place to which the public have a right of access, and does not include a spot from which the public may be shut out by the owner of the soil. *Curtis* v. *Embery*, 7 L. R. Exch. 369; 21 W. R. 143, Exch.

A piece of ground dedicated by user to the public as a road is not a "street, not being a highway" within the Public Health Act, 1848, § 69 (since repealed). *Healey* v. *Batley* (*Corporation*), 44 L. J. Ch. 642, V. C. B.

A corporation, affecting to act under the provisions of their local act, commenced to break up and excavate a private road belonging to the plaintiff, and situate within the borough, for the purpose of laying down a sewer. *Held*, that on the construction of the local act, taken with the provisions contained in the Public Health Act, 1848, the Sewage Utilization Act, 1865, 28 and 29 Vict., chap. 75, and the Public Health Act, 1875 (by which latter act the first is wholly repealed, and the second except so far as relates to Scotland and Ireland), the road was a street within those acts, and that the corporation had power to lay down the sewer thereunder and for that purpose to break up the soil thereof. *Taylor* v. *Oldham Corporation*, 25 W. R. 178; L. R. Ch. Div. 395; 25 L. T. (N. S.) 696; 46 L. J. Ch. Div. 105, R.

When premises have been provided for the purpose of being used as public walks or pleasure grounds, under the Public Health Act, 1848, 11 and 12 Vict., chap. 63, § 74, it is allowable to erect thereon such buildings as may be conducive to the purpose for which the premises have been required. Of such a nature are a conservatory, a museum and a public library, but not a town hall or a school of art. *Attorney-General* v. *Sunderland* (*Corporation*), 45 L. J. Ch. 839; 24 W. R. 991; 2 L. R. Ch. Div. 634, C. A. Although the above act is repealed, the principle remains the same wherever such a power as above is given.

By section 326 (Part XI, saving clauses and repeal of acts) of 38 and 39 Vict., chap. 55, Public Health Act, 1875, "All urban sanitary authorities and rural sanitary authorities existing at the time of the passing of this act shall be deemed to be urban authorities and rural authorities under this act; and all joint boards, port sanitary authorities, and parochial committees, and all local government districts constituted in pursuance of the Sanitary Acts, and existing at the time of the passing of this act, shall be deemed to be joint boards, port sanitary authorities, committees of rural sanitary authorities, and parochial committees, and local government districts, under this act; and the members of all the above-mentioned bodies shall hold office (subject to the provisions of this act respecting the election of members of local boards) for such time as they would respectively have held office if this act had not been passed; and the officers and servants of all the above-mentioned bodies shall continue to hold their several offices and employments on the same terms and subject to the same conditions as to duties, remuneration and otherwise, as they would have held them if this act had not been passed; and all by-laws duly made under *any of the Sanitary Acts* by this act repealed and not inconsistent with any of the provisions of this act, shall apply to all such bodies existing at the time of the passing of this act, and to their several officers and servants, in substitution for the provisions of the Sanitary Acts by this act repealed, but so as not to affect any right acquired or liability incurred under the Sanitary Acts, or any of them, before the passing of this act, and existing at the time of the passing of this act." Except where cases have been decided since the passing of the act of 1875, unless they involve general principles necessarily recognizable independent of statutory enactment, it has been thought better not to complicate the subject with decisions which might be affected by the subsequent legislation, which of itself has yet to be further tested, as some misapprehension might thus arise inadvertently. The difficult question of effectually legislating for the public health has been of too serious and intricate a character to justify the reproduction of decisions on repealed statutes except where they have been ratified by subsequent decisions in consonance with the more recent enactments.

ROADS AND OTHER HIGHWAYS.

By 15 and 16 Vict., chap. 42, § 13, the term "highway" in sections 68 and 69 of 11 and 12 Vict., chap. 63, shall mean any highway repairable by the inhabitants at large. See *Kingston-upon-Hull Local Board of Health* v. *Janes*, 2 Jur. (N. S.) 1193.

SEWERS.

A local board of health has no power to enter upon land without the consent of the owner, for the purpose of making reservoirs and deposit beds for retaining the sewage. *Sutton* v. *Norwich* (*Mayor*, *etc.*), 27 L. J. Chanc. 739, V. C. K.

A local board of health is not justified in polluting the surface water which flows by an open gutter into a canal, by diverting it into a sewer, and passing the sewage into it. *Manchester, Sheffield & Lincolnshire Railway Company* v. *Worksop Board of Health*, 23 Beav. 198; 3 Jur. (N. S.) 304; 26 L. J. Chanc. 345.

Where a canal company had a statutory power to supply the canal with water, out of such "brooks, streams and water-courses as should be found within a certain distance," *held*, that it would be difficult to hold that the mere surface water of a road, not arising from any spring, or natural certain supply, could fall within the act, so far and to such an extent as to exclude a local board of health from making a system of drainage essential to the district, which offending against the right of no one in any other particular, merely allowed to flow, through gratings into the sewer, the water collected on a public road, from rain and from the overflowing of the surplus of the neighboring houses, which water had theretofore flowed down an open gutter into a canal. *Ib.*

By direction of a local board of health the sewage of a town had been by means of drainage conveyed to a river, which sewage, not having been completely deodorized before coming in contact with the river, had so polluted the stream passing B.'s property, as to kill the fish therein, and otherwise cause a nuisance. *Held*, that B. was entitled to an injunction to restrain the further pollution of the water passing by his property. *Bidder* v. *Craydon Local Board of Health*, 6 L. T. (N. S.) 778, V. C. W.

A by-law made by a local board, which provides that if any owner or person should construct, or cause to be constructed any works, or do any act [or omit to do any act, or comply with any], requirement of the local board, or should make any alterations in any works after they have been completed, whether in new or existing buildings, contrary to the provisions therein contained, the local board might cause such works to be removed, altered or pulled down, is invalid, as exceeding the powers conferred by 21 and 22 Vict., chap. 98, § 34 (now repealed). *Brown* v. *Holyhead Local Board of Health*, 1 H. & C. 601; 32 L. J. Exch. 25.

A by-law by a local board of health, imposing continuing penalties on any person who shall construct any works, or do, or omit to do any act, or to comply with any requirements of the board, or shall make any alteration or deviation in any plan approved by the board, whether in new or existing buildings, contrary to the provisions therein contained, or shall do any act, matter, or thing contrary to the by-laws made under the authority of the 21 and 22 Vict., chap. 98, § 34 (since repealed), or shall omit, neglect, or fail to perform any of the works, matters, or things required by such by-laws, and empowering the board to remove, alter, pull down, or otherwise deal with such work as the case may require, is invalid, as exceeding the authority given by the 21 and 22 Vict., chap. 98. *Young* v. *Edwards*, 33 L. J. M. C. 227; 11 L. T. (N. S.) 424, Exch.

But see *Hall* v. *Nixon*, 10 L. R. Q. B. 152; 44 L. J. M. C. 51, 55; 32 L. T. (N. S.) 87; 23 W. R. 612.

If a person gives notice of his intention to build, and leaves with the local board plans and sections, he may at once commence the building subject to the right of its being altered or pulled down, if not in conformity with the by-laws of the board. *Ib.;* and *Hattersley* v. *Barr*, 12 Jur. (N. S.) 894; 14 W. R. 864; 14 L. T. (N. S.) 565; 4 H. & C. 523.

A by-law made by a local board of health, that no dwelling-house should be erected without having at the rear, or side, a sufficient roadway for the purpose of affording efficient means of access to the privy or ash-pit belonging to the house, is bad, as beyond the jurisdiction conferred by the act. *Waite* v. *Garston Board of Health*, 17 L. T. (N. S.) 201; 16 W. R. 78; 3 L. R. Q. B. 5; 37 L. J. M. C. 19.

Section 99 of the Kingston-upon-Hull Improvement Act of 1854, enacts that every house to be thereafter constructed on vacant ground (except corner houses, etc.) shall have a back yard, or other vacant ground and area, of not less than eight feet, extending from the main building for the whole length of such building; and by section 101, a plan shall be furnished to the local board of health by persons intending to build, showing the particulars required by that act; and the building shall not be commenced until the local board approve the plan. A builder submitted to the local board of health of the borough of Kingston-upon-Hull a plan of four new houses (not corner houses) having vacant ground at the side, but not at the back. The local board disapproved the plan, as not complying with section 99, but the party commenced to build notwithstanding. *Held*, that whether section 99 required the vacant space to be at the back or not, the party was rightly convicted of an offense against section 101. *Pearson* v. *Kingston-upon-Hull Local Board of Health*, 3 H. & C. 921; 35 L. J. M. C. 36; 13 L. T. (N. S.) 180.

Section 97 enacts, that any building after the commencement of the act built, shall not, without the previous consent of the local board, be used as a dwelling-house, except only during such time as there is adjoining or belonging thereto, or occupied therewith, either a street or clear open space in and to the full extent of the front thereof, and of not less than twenty-feet in width. *Held*, that a party had committed an offense under this section in building and causing to be used, without the consent of the local board, a dwelling-house with an open space in front less than twenty feet in width. *Ib.*

Section 103 enacts that if any sewer, drain, privy, cesspool, ash-pit, building or other work be made or suffered to continue, contrary to any of the provisions of this act, * * * every person so offending shall for every such offense forfeit a sum not exceeding £5, and for every day after the first during which the offense continues, a sum not exceeding 10*s*. *Held* (by reference to the sections preceding), that the word "building" is not restricted to a building, of similar description with the class of buildings previously enumerated in the section, but includes a dwelling-house; and that the commencing a building, within section 101, is the making a building, within section 103. *Ib.*

Held, also, that the user of a dwelling-house contrary to section 97 is not the making or suffering it to continue contrary to the act, within section 103. *Ib.*

A medical officer of health reported under the Artisans and Laborers' Dwellings Act, 1868, 31 and 32 Vict. chap., 130, §§ 5 and 6, that the premises in Marsh's Court, in the parish of St. George the Martyr, Nos. 1 to 12 and 13, were in a condition or state injurious to health, so as to be unfit for human habitation; and upon this report the surveyor reported that he had surveyed the premises, and was of opinion that the causes of the evil were structural defects in the premises, and that such defects could not be remedied by structural alterations or improvements, or otherwise, but such premises ought to be demolished. The whole of the premises belonged to one party. The vestry subsequently made an order that the premises should be wholly demolished. *Held*, that, first, it was not necessary that there should be a report and an order in respect of each house, but that one report and one order were, under the circumstances, sufficient. *Flight* v. *St. George the Martyr* (*Southwark Vestry*), 24 L. T. (N. S.) 24, Q. B. *Held* secondly, that as the report of the surveyor stated that the structural defects could not be remedied, but that the premises ought to be demolished, it was unnecessary to specify in detail in what the structural defects consisted. *Ib.*

MARKETS.

A corporation, being lords of a market and owners of the soil, is entitled at common law to remove the market; but where the corporation, acting as a local board, takes steps under the enactment of the Local Government Act, 1858, 21 and 22 Vict., chap. 98, § 34, to set up a market in a new place, it can only act under the powers and subject to the provisos of the statute, and is not entitled to fall back on its common-law right. *Ellis* v. *Bridgeworth* (*Corporation*), 2 Johns. & H. 67; 9 W. R. 331; 4 L. T. (N. S.) 112.

Quære, whether the immemorial privilege of householders of erecting and hiring out stalls in front of houses in market place is a right protected by the proviso in section 50.

Semble, that the setting up of a new market under this statute, at a short distance from and in lieu of an ancient market, is an establishment of a market, within section 50, and not a mere removal. *Ib.*

By 26 and 27 Vict., chap. 32, the owner of any coals brought within the district of the local board of health for Hull is bound, "before such coal, or any part thereof, is sold or delivered or dealt within the district," to deliver to the inspector appointed for the purpose, the original pit note denoting the quantity and quality thereof. A ship-owner brought coals in a lighter into the district of the board of health for Hull, where they were transferred into a steamer, also belonging to the ship-owner. *Held*, that this was dealing with the coals within the meaning of the statute, and that the ship-owner was bound to deliver the pit note to the inspector. *Wilson* v. *Hull Local Board of Health*, 12 Jur. (N. S.) 706, Q. B. A Local Improvement Act imposed a penalty for exposing for sale in any of the streets of the town any meat so as to project over or upon any foot or carriageway.

The act provided that no person should be subject to any penalty for placing any stall, or exposing provisions for sale so as such stalls shall be placed in such part of the streets as should be appointed by the commissioners, and that no person should be subject to any penalty for placing any stall or exposing provisions for sale in such parts of the streets as should have been theretofore used for that purpose at the times of the usual fairs and markets within the town.

In 1853, a local board of health was constituted in the township, under 16 and 17 Vict., chap. 24, who, by by-laws duly allowed and published, appointed certain places for markets for certain descriptions of goods on market days, and imposed penalties for the breach thereof. *Held*, that the provisions of the local act did not exempt from such penalties one who violated these by-laws by exposing for sale meat at a place other than that so appointed by the local board of health, notwithstanding the spot where such meat was so exposed for sale was a place where such articles had for a long series of years been sold by him and others. *Savage* v. *Brook*, 15 C. B. (N. S.) 264; 10 Jur. (N. S.) 587; 33 L. J. M. C. 42; 12 W. R. 81; 9 L. T. (N. S.) 334.

A local board acting under the powers of the Local Government Act, 21 and 22 Vict., chap. 98, and the Markets and Fairs Clauses Act, 10 and 11 Vict., chap. 14, made by-laws, directing that cattle markets and an annual show of horses should be held in prescribed places, and appointing a toll for cattle, horses, etc., exposed for sale in such markets. An auctioneer, at the time when these markets were established, was possessed of a building called the Agricultural Hall, which was erected some years before the passing of the by-laws regulating the market. It was a large building, containing a ring or area in which was accommodation for about 100 head of cattle. Adjoining to and communicating with it was a yard with pens capable of holding 1,400 sheep. His dwelling-house was separated from the Agricultural Hall by his harness-room and stable. He advertised and held sales by auction in the Agricultural Hall on market days, the average sale on these days amounting to 100 cattle and 1,000 sheep, and exceeding the sales in the regular market. The cattle and sheep so sold were the property of farmers and others, the auctioneer charging them with a commission. *Held*, that, without expressing any opinion whether an auctioneer would have been at liberty to sell horses by auction on his premises, notwithstanding the market, it was evident, having regard to the nature and extent of his premises, that they were not part of his dwelling place or shop within the meaning of the 10 and 11 Vict., chap. 14, § 13, and that the business carried on by him was not a right, power or privilege which he enjoyed when the market was established, within the meaning of the Local Government Act (§ 50). *Fearon* v. *Mitchell*, 41 L. J. M. C. 170; 7 L. R. Q. B. 690; 27 L. T. (N. S.) 33.

SLAUGHTER-HOUSES, OFFENSIVE TRADES AND NUISANCES.

A police act empowered a town council of a borough to grant licenses for the erection of slaughter-houses. A. applied for a license. The market committee inspected the site and recommended the grant. The committee passed a resolution to grant the license, and communicated the same to A., and the resolution was confirmed by the town council. *Held*, that though it was usual afterward to grant a formal license in a printed form, still the grant was complete on the confirmation of the resolution and communication thereof to A., and operated as a license. *Howarth* v. *Manchester* (*Mayor*, *etc.*), 6 L. T. (N. S.) 683, Q. B.

By 11 and 12 Vict., chap. 63, § 64 (the whole act since repealed) the business of a slaughterer of cattle, or other noxious or offensive business, shall not be newly established in any building or place in any district, after the act has been applied to it, without the consent of the local board of health; and whosoever offends against this enactment shall be liable, for each offense, to a penalty of £50. A cattle market company, cattle having never been slaughtered in the market before, after the act had been applied to the district, erected a building, in which they allowed persons to slaughter cattle on the payment of 2*s.* a head, the company finding the tackle attached to the building, but the persons slaughtering bringing their own implements. *Held*, that the company was liable to the penalty. *Liverpool New Cattle Market Company* v. *Hodson*, 2 L. R. Q. B. 131; 8 B. & S. 184; 36 L. J. M. C. 30; 15 W. R. 563; 15 L. T. (N. S.) 534.

The Towns Improvement Clauses Act, 10 and 11 Vict., chap. 34, § 126, prohibits the use of a slaughter-house without the license of the commissioners; that is, in certain boroughs the corporation, acting as the local board, under 21 and 22 Vict., chap. 98. The corporation was the local board in Brecon. The Brecon Markets Act, 1862, which incorporated the Brecon Markets Company, empowered the company, with the consent of the corporation, to erect slaughter-houses. *Held*, that the consent of the corporation under the latter act operated as the license of the local board under the former act. *Anthony* v. *Brecon Markets Company*, 21 W. R. 27; 26 L. T. (N. S.) 979; 7 L. R. Exch. 399, Exch. Cham.; reversing 2 L. R. Exch. 168; 36 L. J. Exch. 113; 15 L. T. (N. S.) 665; 15 W. R. 620.

Prior to the coming into operation in a town of the 31 and 32 Vict., chap. 98, S. occupied premises in a street there for the purpose of slaughtering pigs. These premises consisted of a yard with an entrance by closed doors or gates from the street, and in the yard, pig-pens, a cart-shed, a shed used for slaughtering pigs, and a stable for horses, the external vaults of which constituted the walls of the building. While the premises were so used S., upon the coming into operation of the act, obtained a license, which license stated that the animals to be slaughtered were pigs. No animals before them were ever slaughtered in the stable. After obtaining such license S. had converted the stable into another slaughtering shed, and used the same for slaughtering bullocks and sheep therein. Upon an information for using this stable as a slaughter-house without having obtained a license for that purpose, the justices held that upon a proper application of the law to the facts, S. was entitled to use the stable as he did, for that the stable, as forming an original portion of the premises licensed as a slaughter-house, was covered by such license. *Held*, that the justices were right. *Brighton Local Board of Health* v. *Stenning*, 15 L. T. (N. S.) 567, Q. B.

Brickmaking is not necessarily a noxious or offensive business, trade or manufacture, within 11 and 12 Vict, chap. 63, § 64 (repealed). *Wanstead Board of Health* v. *Hill*, 13 C. B. (N. S.) 479; 9 Jur. (N. S.) 972 ; 32 L. J. M. C. 135 ; 11 W. R. 368 ; 7 L. T. (N. S.) 744.

PROCEEDINGS TO COMPEL OWNERS TO DO WORKS REQUIRED.

Land had been conveyed to three trustees, under 4 and 5 Vict., chap. 38, § 2, for the purposes of the act, and to permit the premises and all buildings erected thereon to be forever used as a school for the education of poor children, and for the residence of the master and mistress, and for no other purpose whatsoever. The school was built and used according to the trust, no rent whatever being received by the trustees. The local board gave the proper notices for paving the street, along which the school fronted, to one of the trustees and the owners of other premises fronting the street, under 11 and 12 Vict., chap. 63, § 69 ; and they charged the trustee, as owner of the school, the proportion according to the frontage of the school. *Held*, that the trustee was the owner within section 2, which enacts that "owner" "shall mean the person for the time being, receiving the rack-rent of the lands or premises, whether on his own account or as agent or trustee for any other person, or who would so receive the same if such lands or premises were let at a rack-rent ;" and that he was, therefore, liable to pay the proportion of the expenses. *Bowditch* v. *Wakefield Board of Health*, 6 L. R. Q. B. 567 ; 40 L. J. M. C. 214 ; 25 L. T. (N. S.) 88.

A nuisance arose from a privy in the upper part of a house, of which, with the shop belonging thereto, H. was the lessee, at a rack-rent, for twenty-one years. H. occupied the shop only, and sublet the upper part, where the nuisance arose, to K., a weekly tenant, and to this part of the premises H. had no access. C., as agent to H.'s lessor, collected the rent. The parish authorities, for the purpose of abating the nuisance, under the powers given them by 29 and 30 Vict., chap. 90, § 21, and 18 and 19 Vict., chap. 121, § 12, summoned C., as the owner of the premises within the interpretation clause (§ 2) of the latter statute, before the justices, who made an order upon him to abate the nuisance. *Held*, that C. was not the owner within the true construction of section 2, as K., the weekly tenant, was the occupier of the premises where the nuisance arose, and that, therefore, II. was not the occupier, but the person receiving rent from the occupier of the property within the meaning of the statutes. *Reg.* v. *Bath* (*Justices*); *Cook* v. *Montague*, 20 W. R. 624, Q. B.

By an order of justices under the Public Health Act, 1875, §§ 94, 96, it was found that on land, the property of a certain person named, a nuisance existed, viz., a foul ditch, caused by refuse water and offensive liquid from an adjoining brewery, and that this nuisance was caused by the act or default of the defendant as owner and occupier of the brewery, and it was ordered that the defendant, within three months, should abate the nuisance, and for that purpose should execute such works and do all such things as might be necessary, so that the same should no longer be a nuisance or injurious to health. Upon a rule for *certiorari*, on the ground that the defendant was not the occupier of the premises on which the nuisance was proved to exist, and that he had no power or authority from the owner to enter on the premises for any purpose whatever, *held*, that the order must be quashed. *Reg.* v. *Trimble*, 36 L. T. (N. S.) 508, Q. B. Div.

The power of justices to grant or refuse an order enabling a local authority to enter lands under section 305 of the Public Health Act, 1875, is wholly discretionary, their decision being, therefore, final. *Diss. Urban Sanitary Authority* v. *Aldrich*, 36 L. T. (N. S.) 663; 2 L. R. Q. B. Div. 179; 46 L. J. M. C. 183. A. applied to the justices under section 305 of the Public Health Act, for an order authorizing them, as the local authority, to enter upon certain lands of the defendant for the purposes of the act. The application was dismissed, but the justices stated a case under the 20 and 21 Vict., chap. 43, § 2, for the opinion of the court. *Held*, that the justices had no power to state a case, as this was not the determination of a complaint within 20 and 21 Vict., chap. 43, § 2. *Ib.*

The Public Health Act, 1875, 38 and 39 Vict., chap. 55, gives an appeal to quarter sessions in respect of any order, conviction, judgment or determination of any court of summary jurisdiction, subject to the condition that the appellant shall, within fourteen days after the cause of appeal has arisen, give notice to the other party of his intention to appeal. An order was made upon the appellants, under section 48, which order was eighteen days afterward served upon them; and they, within eight days from the receipt of the service, gave notice of appeal. *Held*, that the notice of appeal was too late. The words "cause of appeal" in section 269, subs. 2, have the same meaning as "decision of the court" in section

269, subs. 1; and a notice of an appeal against an order made under section 48 must be given within fourteen days from the time when the court pronounces its decision. *Reg* v. *Barnett Rural Sanitary Authority*, 45 L. J. M. C. 105; 1 L. R. Q. B. Div. 558; 35 L. T. (N. S.) 362.

APPORTIONMENT ON AND RECOVERY FROM OWNERS OF EXPENSES OF WORKS.

A street being out of repair, a local board of health gave notice to the owners of the adjoining houses to repair it, and on this not being complied with, executed the works, and gave notice of the expenses and apportionment to each of the owners. The owners gave notice of disputing the apportionment,and at the end of the three months limited by 21 and 22 Vict., chap. 98, § 63 (since repealed), the board made a demand of the amount. The owners having refused to pay, and the expenses not having been declared to be private improvement expenses. — *Held*, that the board had, under 11 and 12 Vict., chap. 43, § 11, six months from the expiration of the three months during which the apportionment might have been disputed, to take proceedings before justices of the peace for the recovery of the amount. *Jacomb* v. *Dodgson*, 3 B. & S. 461; 9 Jur. (N. S.) 848; 32 L. J. M. C. 113; 11 W. R. 308; 7 L. T. (N. S.) 674.

The 11 and 12 Vict., chap. 63 (since repealed), only authorizes an arbitration in respect of the proportion to be borne by a defaulting owner, and not in respect of any question as to the expenses being reasonable or properly incurred by the board. *Bagley* v. *Wilkinson*, 16 C. B. (N. S.) 161; 10 Jur. (N. S.) 726; 33 L. J. M. C. 161; 10 L. T. (N. S.) 543.

In 1858 a local board of health served upon W., an owner of premises within the meaning of 11 and 12 Vict., chap. 63, § 69, a notice to execute certain specified works in paving, etc.

The works not having been executed by him, the local board completed them on the 30th of November, 1860, and on the 21st of January, 1861, apportioned the expense among W. and the other owners, giving notice on the same day to him that "unless the amount of this account is paid within fourteen days after delivery, interest at the rate of £5 per cent per annum will be charged thereon until fully liquidated. To proportion of sewering, leveling, paving, flagging, channeling, etc., namely fifty feet frontage, at 5*s.* 4*d.*, £13 6 8." The amount was not paid, and the local board on the 25th of August, 1870, resolved and declared that the amount should be "private improvement expenses," and subsequently that the amount should be paid by two installments. W. refused to pay, and an information was laid against him. *Held*, that the local board, having elected in 1861 to treat the amount as a debt due from W., could not treat it as a private improvement expense. *Wilson* v. *Bolton* (*Mayor, etc.*), 41 L. J. M. C. 4; 7 L. R. Q. B. 105; 25 L. T. (N. S.) 597.

Held, also, that to recover the amount from W. proceedings must have been taken within nine months from the service of the notice of the 21st of January, 1861, which must be considered as a demand. *Ib.*

The lessee of a house which was demised for twenty-one years at an annual rent covenanted with his lessor during the term "to bear, pay and discharge the sewers rate, tithes, rent-charge in lieu of tithes, and all other taxes, rates of assessments and outgoings whatsoever, which at any time or times during the demise should be taxed, rated, charged, assessed or imposed upon the demised premises, or any part thereof, or upon the landlord or tenant in respect thereof, or on the rent thereby reserved (except as aforesaid)." Under the Sanitary Act, 1866, § 10, the local board of the district was empowered to require the owner of the house to connect the house drains with a main sewer, belonging to the board, and on his default, to do the work, and recover the expenses from the owner in a summary way. The local board having during the demise required the connection to be made, *held*, that the lessee was bound by his covenant to pay the expense of making it. *Crosse* v. *Raw*, 43 L. J. Exch. 144.

When works are executed by a local authority for the improvement of a street, it is necessary, before summary proceedings can be taken for the recovery of the amount apportioned upon any owner, that a demand of payment of the sum so apportioned should be served upon him, and the six months within which the summary proceedings must be taken under 11 and 12 Vict., chap. 43, § 11, are to be reckoned from such notice of demand, and not from the notice of apportionment, which is not a sufficient demand. *Grese* v. *Hunt*, 2 L. R. Q. B. Div. 389; 46 L. J. Q. B. Div. 202; 25 W. R. 543; 36 L. T. (N. S.) 404.

In July, 1877, justices of the peace made orders against the plaintiff and others, one of whom was L., for payment to the local board of the expense of repairing a street. It was agreed that the order should not be enforced for three months, in order to abide the decision on a case to be presented by L. to the Queen's Bench upon a point of law. L. appealed to the Quarter Sessions, and the order against him having been quashed on the ground of a technical error, he did not take a case to the Queen's Bench. The plaintiff was not told of what had taken place, and, in November, her time for appealing having gone by, an order to levy the amount against her was obtained from the justices.

On motion by the plaintiff, and on her undertaking to assent to the statement of a case to the Queen's Bench on the point of law, and on her bringing the amount claimed into court, considering the plaintiff had been misled by the board, the court restrained them from levying unless, or until, she should have an opportunity of stating a case to the Queen's Bench. *Ashworth* v. *Hebden Bridge Local Board*, 37 L. T. (N. S.) 496; V. C. M.

By the Public Health Act, 1848, § 69 (since repealed), the local board might require the owners of premises fronting or abutting upon any street to sewer and pave the same, and, upon default, might themselves execute the work; and the expenses incurred by them were to be paid by the owners in default, and might be recovered in a summary manner. By section 129, summary proceedings were to be taken before two justices. By the Local Government Act, 1858 (since repealed), Amendment Act, 1861, 24 and 25 Vict., chap. 61, § 24 (since repealed), proceedings for the recovery of demands below £20, which local boards were empowered to recover in a summary manner, might at the option of the local board be taken into the County Court. By 11 and 12 Vict., chap. 43, § 11, in all cases where no time is specially limited for making a complaint before justices, it must be made within six months from the time when the matter thereof arose. A local board under the Public Health Act, 1848, § 69 (since repealed), incurred expenses in sewering and paving a street, upon which premises belonging to R. abutted; his proportion of the expenses amounted to £13 5 6. On the 18th of February, 1873, notice was served by the board on him that the foregoing amount was apportioned upon him, and that the same would become payable by him unless within three months he disputed it. R. did not dispute the apportionment. The money not having been paid, on the 8th of June, 1875, a plaint was issued by the local board in a County Court to recover it from R.'s executor. *Held*, that the limitation of time mentioned in 11 and 12 Vict., chap. 43, § 11, applied as well to proceedings in County Courts as to proceedings before justices, and that the action could not be sustained, it having been brought more than six months after the expiration of the three months allowed for disputing the amount apportioned upon R. *Tottenham Local Board of Health* v. *Rowell*, 1 L. R. Exch. Div. 514; 46 L. J. Q. B. 432; 35 L. T. (N. S.) 887; 25 W. R. 135, D. C. A.; S. P., *West Ham Local Board* v. *Maddams*, 33 L. T. (N. S.) 809.

Where a local act required the consent of commissioners to new streets becoming highways, to make the inhabitants liable to repair them, an order of the local board on owners to repair a street, in respect of which such consent had not been given, is lawful, inasmuch as such street was not a highway repairable by the inhabitants at large. *Willes* v. *Wallington*, 13 C. B. (N. S.) 865; 32 L. J. C. P. 86, Exch. Cham.

The Manchester Improvement Act, 1851, enacts in section 17, that the expenses incurred by the town council in sewering and flagging a street shall be borne by the owners, "according to the extent of their respective houses and grounds lying alongside or adjoining to the said street." *Held*, that the owner of ground at the end of a street, forming a *cul de sac*, was liable under this section, although a wall divided his property entirely from the street. *Manchester* (*Mayor, etc.*) v. *Chapman*, 18 L. T. (N. S.) 640; 16 W. R. 974; 37 L. J. M. C. 173, C. P.

A local board of health has no power to enter upon land without the consent of the owner, for the purpose of making reservoirs and deposit beds for retaining the sewage. *Sutton* v. *Norwich* (*Mayor, etc.*), 27 L. J. Chanc. 739, V. C. K.

A local board of health is not justified in polluting the surface water which flows by an open gutter into a canal, by diverting into a sewer, and passing the sewage into it. *Manchester, Sheffield and Lincolnshire Railway Co.* v. *Worksop Board of Health*, 23 Beav. 198; 3 Jur. (N. S.) 304; 26 L. J. Chanc. 345.

Where a canal company had a statutory power to supply the canal with water out of such "brooks, streams and water-courses as should be found within a certain distance,"—*Held*, that it would be difficult to hold that the mere surface water of a road, not arising from any spring or natural certain supply, could fall within the act, so far and to such an extent as to exclude a local board of health from making a system of drainage essential to the district, which, offending against the rights of no one in any other particular, merely allowed to flow through gratings into the sewer the water collected on a public road from rain, and from the overflowing of the surplus of the neighboring houses, which water had theretofore flowed down an open gutter into a canal. *Ib.*

Under 11 and 12 Vict., chap. 63, §§ 45, 46 and 145, providing that the local board may make necessary sewers, through or under any lands whatever, and cause them to be emptied into such places as may be fit and necessary, provided that nothing in the act shall authorize the boards to use, injure or interfere with any water-course, stream, river, etc., in which the owner of any lands may be interested without the consent of such owner,—*Held*, that persons having a right to watering places in a river adjoining lands for the use of their cattle are interested in the river within the meaning of the proviso, but would not be able to maintain an action for an interference with their rights, unless they were injured by such interference. *Oldaker* v. *Hunt*, 6 De G., M. & G. 376; 1 Jur. (N. S.) 785.

Held, secondly, that works of a local board of health, producing an outfall of the sewage of a town above such watering place, was such an interference as to cause injury to the land-owners; but that whether this was established or not, it ought (if not consented to by them) to be restrained by injunction, being the act of a public body exceeding its powers. *Ib.* A right of fishing is within the term "land," according to the interpretation clause of the 11 and 12 Vict., chap. 63, § 2. *Ib.*

A local board carried the whole drainage of the town into an adjacent river, a small stream which immediately below the town flowed for three miles through the plaintiff's lands on both sides. The plaintiff was also seized of a mill upon the stream. The quantity of sewage matter thrown into the stream was greatly increased, the population of the town having increased nearly one-half, and the extent of sewers from 250 yards in 1848, to 10,500 yards in 1855; and besides other evidence of that, it appeared that sheep could no longer be washed there, that the fish were all dead, and that the exhalations were noisome. *Held*, first, that the practice long previously and up to 1848, of a few houses in the town to drain into the river, afforded no ground for the local board setting up a prescriptive right, and that the local board, as a modern corporation, could claim no prescriptive rights. *Attorney-General* v. *Luton Local Board of Health*, 2 Jur. (N. S.) 180, V. C. W. *Held*, secondly, that the stream was a private stream, the property of the plaintiff, and, therefore, that the board had no rights except with his consent. *Ib.*

A local board of health made sewers in execution of the powers of 11 and 12 Vict., chap. 63, and 21 and 22 Vict., chap. 98, and in doing so injuriously affected a stream without having obtained the consent of the occupier of a mill on the stream, and entitled to the flow of the stream to his mill. He obtained a *mandamus* to the local board for compensation, and made a claim, first, for damage sustained in consequence of the board opening the main sewer so as to allow the water of the stream to flow through it for forty-six hours; and secondly, for a drain or a trap-door being made out of the stream, and water allowed to flow out of the stream into the trap-door. *Held*, first, that 21 and 22 Vict., chap. 98, § 73, was not confined to cases in which a court of equity would grant an injunction against the local board, and that the occupier of a mill was in the position of a person who would, if the act had not passed, have been entitled by law to prevent the injuriously affecting the stream. *Reg.* v. *Darlington Local Board of Health*, 6 B. &. S. 562; 35 L. J. Q. B. 45; 13 W. R. 789, Exch. Cham.

Held, secondly, that the works of the local board were not authorized by section 73, and, therefore, the claim of the occupier was not the subject of compensation, but a ground of action. *Ib.*

An annual highway board, constituted under 5 and 6 Wm. IV, chap. 50, acting as a local authority under the Nuisances Removal Act, 18 and 19 Vict., chap. 121 (whole act now repealed except as far as relates to the Metropolis), constructed in 1859 a system of sewers, which conveyed the sewage of their district into a stream, and thus occasioned a nuisance in the adjoining district. *Held*, that the highway board of 1865 could not be compelled to take any steps to remedy the existing nuisance, but that they could be restrained from exercising their statutory powers so as to increase the nuisance. *Attorney-General* v. *Richmond*, 12 Jur. (N. S.) 504; 35 L. J. Ch. 597; 2 L. R. Eq. 306; 14 W. R. 686: 14 L. T. (N. S.) 398 V. C. W.

A sewage company was under covenant with a local board to keep their own works in working order, so as to admit the free flow of sewage from sewers of the board. A demurrer to a bill seeking to restrain the company from causing or permitting sewage to remain in the sewers of the board was overruled. *Nuneaton Local Board of Health* v. *General Sewage Company*, 44 L. J. Ch. 561; 20 L. R. Eq. 127, V. C. B.

By the Public Health Act, 1875, § 16, a local authority was empowered to carry any sewer "into, through or under" any lands within its district, and the act provided for compensation to all persons sustaining damage by reason of the exercise of the powers of the act in relation to any matters as to which they were not themselves in default. A local board under this act proceeded to carry a sewer across private pleasure grounds, on such a level that the bottom of the sewer would be only slightly below the surface, and a permanent embankment about six feet high would be made. *Held*, that the local board was authorized so to do, for that the act did not confine them to carrying a sewer underground. *Roderick* v. *Aston Local Board*, 5 L. R. Ch. Div. 328; 46 L. J. Ch. Div. 802; 25 W. R. 403; 36 L. T. (N. S.) 328, C. A.; affirming decision of the Master of the Rolls, 36 L. T. (N. S.) 170.

An order under the Sanitary Act, 1866, 29 and 30 Vict., chap. 90, § 49 (Parts I, II and III, including this section 49, are repealed, except so far as relates to the Metropolis, or to Scotland or Ireland), reciting that a sewer authority "had made default in providing a proper system of main drainage," and ordering the authority to "do its duty, and begin to set about the works for the purpose within one month from the date of the order, and proceed therewith until completion," is good; and a second order, made after default in complying with the first, appointing a person to "perform the duty of the sewer authority in respect to sewerage, as he should be directed by the Secretary of State," is also good. *Reg.* v. *Cockerell*, 40 L. J. M. C. 153; 19 W. R. 1133; 6 L. R. Q. B. 252.

DRAINS, DITCHES AND OTHER WATER-COURSES.

A natural stream, flowing through and draining agricultural land, was widened, deepened, and otherwise improved, by inclosure commissioners, under a private act, at the expense of the land-owners. In its course it passed through a town, receiving the drainage of two or three houses. *Held*, that it was not thereby converted into a sewer, within 11 and 12 Vict., chap. 63; but even if so, it came within the second exception in section 43, and, therefore, did not vest in the local board, so as to cast upon the board the duty of cleansing and repairing it. *Reg.* v. *Gadmanchester Local Board of Health*, 11 Jur. (N. S.) 63; 5 B. & S. 886; 34 L. J. Q. B. 13; 13 W. R. 155; affirmed on appeal, 5 B. & S. 936; 1 L. R. Q. B. 328; 35 L. J. Q. B. 125; 14 W. R. 375; 14 L. T. (N. S.) 104, Exch. Cham.

A *mandamus* to a local board of health alleged that a drain or a water-course was in such a state as to be a nuisance, injurious to health, and commanded the board to cleanse it. On a return and plea, the stream was found to be in the state alleged. *Held*, that the prosecution was not entitled to judgment, for that the duty of the local board under 11 and 12 Vict., chap. 63, § 58, to cleanse ditches, etc., is only conditional on the neglect of the owner or occupier of the land on which the nuisance exists to remove it after notice, and no such notice or neglect was alleged in the *mandamus*. *Ib.*

The fact that a water-course is the natural drain of a district, and is polluted to some extent, but not so as to be a nuisance or to prevent a qualified enjoyment of it, by the sewage of some of the houses on its banks flowing or draining into it, does not entitle a local board of health to treat it as a common sewer, and to connect other sewers with it so that it becomes a public nuisance. *Attorney-General* v. *Hackney Local Board*, 33 L. T. (N. S.) 244; 44 L. J. Chanc. 545; 20 L. R. Eq. 626.

When a local board of health is interfering with a water-course in a manner not authorized by the Local Government Act, 21 and 22 Vict., chap. 98, § 68, art. 3, it will be restrained from so doing, and the person injured will not be left to his remedy under the compensation clause of the 11 and 12 Vict., chap. 63, § 144. *Grand Junction Canal Company* v. *Shugar*, 6 L. R. Ch. 483.

By 11 and 12 Vict., chap. 63, § 54, the surveyor of the local board of health may examine any drain, water-closet, privy, cess-pool or ash-pit; and if it is in bad condition, the board shall cause notice in writing to be given to the owner or occupier of the premises, requiring him to do the necessary works; and if such notice be not complied with, the party shall be liable to a penalty for every day during which he makes default. *Held*, that the discretion to determine what works are necessary to be done is vested in the board, and that, on a proceeding before justices to recover the penalty under section 129, they had no jurisdiction to review its determination. *Hargreaves* v. *Taylor*, 3 B. & S. 613; 9 Jur. (N. S.) 1053: 32 L. J. M. C. 111; 11 W. R. 562; 8 L. T. (N. S.) 149.

By a section of a local act, a local board when they think fit may cause the ditches at the sides of, or across public roads and public foot-paths to be filled up, and may substitute pipe or other drains alongside or across such roads. A. was possessed of a freehold close adjoining a public highway. By the side of the highway was a low fence about two feet high, then a strip of green sward averaging ten feet in width, with a broad ditch running parallel to the highway. The close was separated from the strip of green sward by a paling eight feet high. The local board, under the authority of the act of Parliament, filled up the ditch and substituted drain pipes. *Held*, that the ditch being fenced from the highway, the presumption was that it belonged to it, and also, that, as the section referred only to ditches by the side of the highway, the act was not applicable. *Tutil* v. *West Ham Local Board of Health*, 28 L. T. (N. S.) 597; 8 L. R. C. P. 447, C. P.

BUILDINGS.

A local board of health made a by-law, that wherever any open space had been left belonging to any building, such space should never afterward be built upon without the consent of, etc., and without leaving an open space belonging to such building of specified size and dimensions. *Held*, that if the by-law applied to open spaces belonging to old buildings, it was bad, as exceeding the powers conferred by 21 and 22 Vict., chap. 98, § 34. *Tinker* v. *Rees*, 7 Jur. (N. S.) 629, Q. B.

Lessees had for ninety-nine years a piece of land within the jurisdiction of a local board. The land leased was higher than the street, and was bounded from the street by a wall. They erected a chapel on the land, and in order to approach the chapel, steps were placed on their land. The chapel was erected before the local board was in existence, but the steps and boundary wall were completed afterward. After a resolution of the board and a notice to the lessees, the local board removed the steps and boundary wall and refused compensation. *Held*, that the local board was not justified, under 21 and 22 Vict., chap. 98, and if any by-law authorized the act, such by-law would be unreasonable. *Brower* v. *Holyhead Local Board of Health*, 11 W. R.; 7 L. T. (N. S.) 382, Exch.

The proprietor of a house, which had been erected before the constitution of the district, and was used for an hotel, having a yard with coach-house and stables in the rear, for the purpose of making an addition to the hotel, pulled down the coach-house and stables below the ground floor, and erected upon the site a building three stories high; the only means of access to the upper chambers being by going up the staircase of the old house, and through a passage into the new building. On an information against the proprietor for an offense against the by-law of the local board, made under 21 and 22 Vict., chap. 98, § 34, in not leaving an open space equal to one-third of the area of the ground on which the dwelling-house stood, the justices found that the building erected in the yard, being a new building, built up to and adjoining the old building, must either be considered with the old building as one house, or that the old house and new building must be considered as two erections, and that both old and new buildings must be considered in reckoning the ground upon which the building stood, and convicted him of a breach of the by-law. *Held*, that the conviction could not be sustained because the new erection was not a new dwelling-house, but merely an addition to an old dwelling-house, or because the justice had not found that it was a new dwelling-house, which was essential to the validity of the conviction. *Shiel* v. *Sunderland* (*Mayor, etc.*), 6 H. & N. 796.

An owner of a factory, being desirous of rebuilding his premises, submitted the plans to a committee, to whom the town council, also the local board of health, delegated their powers, and the plans having been approved, pulled down the factory and proceeded to rebuild it according to such plans. The town council, under the 21 and 22 Vict., chap. 98, § 35, relating to buildings to be erected, having required him to set back his premises, the court restrained them, by injunction, from interfering with the erection of the factory according to the approved plans. *Slee* v. *Bradford* (*Mayor, etc.*), 4 Giff. 262; 9 Jur. (N. S.) 815; 8 L. T. (N. S.) 491.

A by-law made by a local board, which provides that if any power or person should construct or cause to be constructed any works, or do any act, or omit to do any act, or to comply with any requirement of the local board, or should make any alterations in any works after they have been completed, whether in new or existing buildings, contrary to the provisions therein contained, the local board might cause such works to be removed, altered or pulled down, is invalid, as exceeding the powers conferred by 21 and 22 Vict., chap. 98, § 34. *Brown* v. *Holyhead Local Board of Health*, 1 H. & C. 601; 32 L. J. Exch. 25.

A by-law by a local board of health, imposing continuing penalties on any person who shall construct any works, or do, or omit to do any act or to comply with any requirements of the board, or shall make any alteration or deviation in any plan approved by the board whether in new or existing buildings, contrary to the provisions therein contained, or shall do any act, matter or thing contrary to the by-laws made under the authority of the 21 and 22 Vict., chap. 98, § 34, or shall omit, neglect or fail to perform any of the work, matters or things required by such by-laws, and empowering the board to remove, alter, pull down, or otherwise deal with such work, as the case may require, is invalid, as exceeding the authority given by the 21 and 22 Vict., chap. 98. *Young* v. *Edwards*, 23 L. J. M. C. 227; 11 L. T. (N. S.) 424, Exch. But see *Hall* v. *Nixon*, 10 L. R. Q. B. 152; 44 L. J. M. C. 51, 55; 32 L. T. (N. S.) 87; 23 W. R. 612.

MAKING AND VALIDITY OF RATES, GENERALLY.

The effect of the order of the general board of health and of the 11 and 12 Vict., chap. 63, is to repeal the rating powers given by local acts. *Elmer* v. *Norwich Local Board of Health*, 3 El. & Bl. 517; 2 C. L. R. 886; 18 Jur. 870; 23 L. J. Q. B. 203.

Notice was given by a local board of health of an intention to make a rate under the Public Health Act, 1848, and amending acts. Before the notice had expired these acts were repealed by the Public Health Act, 1875, 38 and 39 Vict., chap. 55, which contained a saving of "any thing duly done" under the repealed enactments, and gave power to make a similar rate upon giving a similar notice. The board, in ignorance of the repeal, made a rate purporting to be made under the repealed acts. *Held*, that the rate was valid, the notice being a "thing duly done," and the accidental reference in the rate to the repealed acts being immaterial to its validity. *Reg.* v. *West Riding of Yorkshire* (*Justices*), 1 L. R. Q. B. Div. 220; 45 L. J. M. C. 97; 35 L. T. (N. S.) 358.

The maintenance of the highways within the district of a local board must be provided for by a district rate, and not by a highway rate, whether the district is or is not conterminous with an ancient parochial division. *Taff Railway Company* v. *Cardiff Local Board of Health*, 8 El. & Bl. 535.

By the Walsall Improvement and Market Act, 1848, commissioners had power to levy an improvement rate within a district not comprising the whole municipal borough as afterward constituted, but the act contained a proviso that the occupiers of land used as a railway should be assessed in proportion only of one-fourth part of the net value. The Public Health Acts, 1872 and 1875, formed the whole municipal borough of Walsall into an urban sanitary district. *Held*, that the assessment ought to be made under the local act and not under the Public Health Acts. *London & North Western Railway Company* v. *Walsall* (*Overseers*), 35 L. T. (N. S.) 626; 25 W. R. 59, Q. B.

The word "railway" in the proviso, 11 and 12 Vict., chap. 66, § 88, meant the way on which carriages actually go, including the line itself, the turn-tables and the sidings; and land used only for the purpose of supporting this way, as for embankments, etc., is within the proviso, and to be assessed at the lower rate. But the adjuncts, such as stations and warehouses, though necessary for the working of the railway, did not form part of it within the proviso, and land used for these latter purposes was assessable at its full and annual value. *South Wales Railway Company* v. *Swansea Local Board of Health*, 4 El. & Bl. 189; 1 Jur. (N. S.) 326; 24 L. J. M. C. 30.

By the Public Health Act, 1872, 35 and 36 Vict., chap. 79, § 43, any limit imposed on or in respect of any rate by any local act of Parliament shall not apply to any rate required to be levied for the purpose of defraying any expenses incurred by a sanitary authority for sanitary purposes. *Held*, that this provision does not make ratable any premises which, under the local act, were altogether exempt from rates. *Walton* (*Commissioners*) v. *Walford*, 23 W. R. 292; 10 L. R. Q. B. 180; 44 L. J. Q. B. 74.

A *mandamus* lies to a local board of health to make a rate in aid of a judgment within six months after the judgment is obtained, though the action in which it was obtained is commenced more than six months after the claim accrued, if the delay in bringing the action is excused, and shown not to have been undue delay. *Worthington* v. *Hutton*, 1 L. R. Q. B. 63; 6 B. & S. 943; 12 Jur. (N. S.) 73; 35 L. J. Q. B. 61· 14 W. R. 632; 13 L. T. (N. S.) 463.

CONTRACTS.

A local board of health for a non-corporate district gave notice to the owners of the premises fronting, adjoining or abutting on certain streets, requiring them to sewer, level, pave, flag and channel the same, which notices not being complied with within the specified time, the board entered into contracts with a third person for their performance; which contained provisions that the contractor was to be paid for the work when the money was collected from the owners of the adjacent properties; the work was done accordingly, but the owners having refused payment, justices before whom they were summoned for non-payment dismissed the summonses. *Held*, that the contractor was entitled to sue the board of health for the work done by him under the contracts. *Worthington* v. *Sudlow*, 2 B.

& S. 508; 31 L. J. Q. B. 131; 8 Jur. (N. S.) 668; 10 W. R. 621; 6 L. T. (N. S.) 283.

ACTIONS FOR NEGLECT OF DUTY, INJURIES TO PROPERTY OR PERSONS, ETC.

A local board of health constructed a sewer along the bank of a river, with trap-doors in it, communicating with the river. When the river was full, and water abundant, the board, by means of the trap-doors, drew the water off from the river, and let it into the sewer for the purpose of flushing it. The place where the trap-doors were placed was at a part of the river above that on which a mill, occupied, was situated. On one occasion the board made a hole in the bottom of the river, and so let the stream run into the sewer for nearly two days continuously, during that time obstructing the water of the river in such quantities that the mill ceased working for want of water. *Held*, that the acts of the board were in excess of the powers given them by statute; that they had injuriously affected the river; and that the owner of the mill might have brought an action for the wrong, and also, in such action, obtained an injunction against the continuance of it; that he was, therefore, an individual entitled by law to prevent or to be relieved against the injuriously affecting the river within 21 and 22 Vict., chap. 98, § 73; and consequently that he could not sustain a *mandamus* against the board to summon a jury to assess him compensation. *Darlington Local Board of Health*, *in re*, 35 L. J. Q. B. 45; 13 W. R. 789; 6 B. & S. 562, Exch.

An action will lie against a local board of health of a corporate district, as a body, for negligence in carrying out works within its powers, so as to cause injury to any person, *e. g.*, for so negligently and improperly constructing a sewer as to cause a nuisance by its discharge. *Southampton and Hitchin Bridge Company* v. *Southampton Local Board of Health*, 8 El. & Bl. 801; 4 Jur. (N. S.) 1298; 28 L. J. Q. B. 41.

In an action against a local board of health for damages sustained by an irruption of sewerage caused by the sewers being improperly constructed, former applications by the plaintiff to the board for compensation on similar occasions, with their answers, awarding compensation, are admissible on his part. Although the fact that such application was made will not settle the question of responsibility for a particular sewer, coupled with the fact that on the occasion in question the board appeared only to dispute their liability on the ground that the occurrence was occasioned by an extraordinary storm, and with some (even though slight) evidence that it was caused by defective construction of the sewers, there will be sufficient evidence of liability. Nor will there be sufficient evidence that a storm was so extraordinary as to excuse the parties responsible for the sewers, unless the evidence extends over a considerable range of years, during which the sewers have been in existence. *Brown* v. *Sargent*, 1 F. & F. 112, Exch.

A local board of health is not liable to an action for permitting a public footway in their district to be out of repair, whereby the plaintiff was injured. *Gibson* v. *Preston* (*Mayor, etc.*), 10 B.& S. 942; 22 L. T. (N. S.) 293; 18 W. R. 689.

A person riding along a highway, under which was a sewer the property in which was vested in the local board of health, his horse trod upon a defective grid or grating put there to drain the surface water off the road into the sewer, the grid gave way and his horse's leg was injured. He brought an action against the local board of health of the district, who were likewise the surveyors of the highway. *Held*, that though the local board might not be liable as surveyors of the highway, they were liable as owners of the sewer, of which the grid formed part, for negligence in not keeping the grid in a proper state. *White* v. *Hindley Local Board of Health*, 10 L. R. Q. B. 219; 44 L. J. Q. B. 114; 32 L. T. (N. S.) 460; 23 W. R. 651.

Members of a local board of health are not personally liable for expenses incurred by a witness instructed by the board. *Binley* v. *Cuckson*, 7 W. R. 16; 32 L. T. 124, Q. B.

Section 264 of the Public Health Act, 1875, requiring a month's notice to be served on a local authority before commencing an action for any thing done under the provisions of the act, does not apply where the object of the action is to restrain the commission of a nuisance, and this notwithstanding the plaintiff also claims compensation for past damage. *Flower* v. *Low Leyton Local Board*, 46 L. J. Ch. Div. 621; 5 L. R. Ch. Div. 347; 36 L. T. (N. S.) 760; 25 W. R. 545, C. A., reversing the decision of MALINS, V. C., 36 L. T. (N. S.) 236; 25 W. R. 423.

COMPENSATION FOR DAMAGES; ARBITRATION AND UMPIRAGE.

A board of health is not bound to give compensation for any damage which it may cause, which would not have been actionable if it had not been acting under the authority of the statute. *Hull* v. *Bristol* (*Mayor, etc.*), 2 L. R. C. P. 322; 36 L. J. C. P. 111; 15 W. R. 404; 15 L. T. (N. S.) 572.

An occupier of a mill situate on a river, and the representative of the riparian proprietor, being entitled to the uses of the water for the purposes of the mill, obtained a *mandamus* against a local board of health on the following grounds: First, that they constructed a sewer, running partly alongside of, and partly under, the river, commencing at a point above, and terminating at a point below the mill, for the flushing of which a portion of the waters of the river was admitted and diverted for two days, during which the mill was hereby prevented from working. Secondly, for the loss of water occasioned by reason of the percolation of underground springs into the sewer, which would otherwise have found their way into the river; and also the percolation of water from the river into the sewer; thirdly, for the construction of trap-doors into the same, which were occasionally opened for the purpose of flushing it; and fourthly, for the diversion of the surface drainage waters of the town into the sewer, which before had been conveyed by artificial drains into the river. *Held* (assuming the injuries to have been such as to form just ground of complaint), that the remedy was not by *mandamus*, but by action. *Reg.* v. *Darlington Local Board of Health*, 10 Jur. (N. S.) 1196; 33 L. J. Q. B. 305; 6 B. & S. 562; 12 W. R. 1034; 10 L. T. (N. S.) 602.

JURISDICTION OF ARBITRATORS.

When an arbitrator has been appointed by one party, under the provisions of the Public Health Act, 1875, §§ 179, 180, his jurisdiction is not ousted by the other party denying his liability and refusing to appear. *Burgess* v. *Norwich Local Board*, 26 W. R. 19; 37 L. T. (N. S.) 355, C. P. Div.

In *Ringland* v. *Lowndes*, 10 Jur. (N. S.) 850; 33 L. J. C. P. 337; 17 C. B. (N. S.) 514; 12 W. R. 1010, Exch. Cham., it was held, that the local board which had, by its clerk, at the time of the reference before the umpire, protested against the proceedings, but had, nevertheless, gone into the case, examined witnesses, and addressed the umpire, was stopped from afterward disputing the umpire's jurisdiction.

PROCEEDINGS FOR PENALTIES.

The Public Health Act, 1875, § 253, enacts that proceedings for the recovery of a penalty under that act shall not be "taken by any person other than by a party aggrieved," or by a local authority, without the consent of the Attorney-General; and by sch. 2, r. 70, a penalty of £50 is imposed upon any person acting as a member of a local board without qualifications. The defendant, who was acting as a chairman of a local board after disqualification, made a complaint to the members thereof as to certain conduct of the plaintiff, who was clerk to the board; the plaintiff, fearing that he might be dismissed from his office, resigned it, and sued the defendant to recover a penalty of £50 for acting without qualification. *Held*, that the plaintiff was not "a party aggrieved" within the meaning of the Public Health Act, 1875, § 253, and that he could not sue for the penalty without the consent of the Attorney-General. *Rochfort* v. *Atherly*, 1 L. R. Exch. Div. 511; S. C., *nom. Smith* v. *Fieldhouse*, 35 L. T. (N. S.) 602.

In *Hollis* v. *Marshall*, 2 H. & N. 755, it was held that a candidate for the office of commissioner, under the Cheltenham Improvement Act, was not a party aggrieved by the defendant, the successful candidate, who was not duly qualified, acting as a commissioner. The plaintiff alleged that he was aggrieved as a rate-payer, voter, and resident within the borough, and also as such candidate. This case arose under the repealed act 11 and 12 Vict., chap. 63, § 133, which section was incorporated into the local improvement act of the borough in question.

PROCEEDINGS BEFORE JUSTICES.

By the Public Health Act, 1875, § 126, subs. 2, any person who, while suffering from an infectious disorder, willfully exposes himself, without proper precautions against spreading the disorder, in any street or public place, or who, being in charge of any person so suffering, so exposes such person, is sujbect to a penalty.

A medical man, in practice at Tünbridge, sent a patient, who was suffering from scarlet fever, to the fever hospital there, with a certificate, directing him to walk in the middle of the road, and not to talk to any one; but, in consequence of an alleged informality in the certificate, the patient was refused admission; whereupon the medical man walked with him through the streets of the town to the residence of the chairman of the local board, from whom, after some delay, he obtained an order for the man's admission to the hospital. He then returned with the patient to the police-station to procure the ambulance to convey him thither. Upon an information against the medical man for an alleged infringement of the statute, the justices were of opinion that it was not proved before them that the medical man had charge of the patient, that he had not willfully exposed the patient in any street or public place without proper precaution, and that he had made the best use of the means at his disposal to prevent the spread of the fever; and they refused to convict him. *Held*, that their decision was right. *Tunbridge Wells Local Board* v. *Bisshopp*, 2 L. R. C. P. Div. 187.

The owners of a house and area, situate in and fronting a street, altered the front of the house by throwing out bay-windows, projecting beyond the street line of frontage, but not beyond the limits of the area. After the completion of the alterations, the local authority threatened them with summary proceedings before the justices for the recovery of penalties under the Public Health Act, 1875, on the ground that they had set forward their building without the written consent of the local authority, under section 156. The owners then moved *ex parte* for an injunction to restrain the local authority from taking these proceedings, alleging that as the alterations had been made over their own property, the local authority, in threatening proceedings, were acting *ultra vires;* that they having had notice of the intention of the owners to make the alterations, were bound by acquiescence; and that the justices had no jurisdiction, as the local authority had not made their complaint within six months after the alleged offense, as required by section 252. The injunction was refused. *Kerr* v. *Preston* (*Corporation*), 6 L. R. Ch. Div. 463; 46 L. J. Chanc. Div. 409; 25 W. R. 264, R.

The 38 and 39 Vict., chap. 55, known as the Public Health Act of 1875, forms now the basis of all legislation on the subject of the public health generally. For the most part all prior acts are by it more or less repealed, and when, therefore, an act is spoken of as simply repealed, it may be assumed that this statute is referred to as the repealing act in such case.

PUBLIC HEALTH LAW IN THE UNITED STATES.

State Quarantines.

I. The quarantines and other restraints established by the health laws of any State, or pursuant thereto, respecting vessels arriving in or bound to any port or district thereof, required to be duly observed by collectors and all other officers of the revenue of the United States, and by masters and crews of revenue cutters, and by military officers in any fort or station upon the sea coast. Such officers authorized and required faithfully to aid in the execution of such quarantines and health laws, according to their respective powers and precincts, and as they shall be directed from time to time by the Secretary of the Treasury of the United States. The Secretary is authorized when a conformity to such quarantines and health laws shall require it, and in respect to vessels which shall be subject thereto, to prolong the terms limited for the entry of the same, and the report or entry of their cargoes and to vary or dispense with any other regulations applicable to such reports or entries. *Provided, etc.* Act of February 25, 1799, § 1; 1 Stat. at Large, 619; 1 Bright. 810.

II. When by the health laws or regulations of a State, any vessel arriving within a collection district of such State shall be prohibited from coming to the port of entry or delivery for such district, and it shall be required or permitted by such health laws that the cargo of such vessel be unladen at some other place within, or near to such district, the collector may grant permit for the unlading thereof at some other place where such health laws shall permit. Provisions for unlading, custody, and delivery of the cargo. *Ib.*, § 2.

III. There shall be purchased or erected under the orders of the President of the United States, suitable warehouses with wharves, and inclosures where goods and merchandise may be unladen and deposited from any vessel which shall be subject to a quarantine, or other restraint, pursuant to the health laws of any State as aforesaid, at such convenient place or places therein, as the safety of the public revenue and the observance of such health laws may require. *Ib.*, § 3.

IV. *During prevalence of any contagious or epidemical disease*, in the port of entry for any collection district, the Secretary, or in his absence, the Comptroller of the Treasury of the United States, may authorize the removal of the collector, and the officers employed in his department, from such port, to any other more convenient place within or as near as may be to such collection district, where such collector and officers may exercise the same authorities, and shall be liable to the same duties, according to existing circumstances, as in such lawful port or district; and of such removal public notice shall be given as soon as may be. *Ib.*, § 4.

V. It shall be lawful for the judge of any District Court of the United States, within whose district any contagious or epidemical disease shall at any time prevail, so as in his opinion to endanger the life or lives of any person or persons confined in the prison of such district in pursuance of any law of the United States, to direct the marshal to cause the person or persons confined as aforesaid, to be removed to the next adjacent prison where such disease does not prevail, there to be confined until he, she, or they may safely be removed back to the place of their first confinement; which removal shall be at the expense of the United States. *Ib.*, § 5.

VI. In case of the prevalence of a contagious or epidemical disease at the seat of government, it shall be lawful for the President of the United States to permit and direct the removal of any or all the public officers to such other place or places as, in his discretion, shall be deemed most safe and convenient for conducting the public business. *Ib.*, § 6.

VII. Adjournment of Supreme Court, Circuit Court, or District Court, authorized, whenever prevalence of such disease renders it hazardous to hold session. *Ib.*, § 7.

1. No vessel or vehicle coming from any foreign port or country where any contagious or infectious disease may exist, and no vessel or vehicle conveying any person or persons, merchandise or animals, affected with any infectious or contagious disease, shall enter any port of the United States or pass the boundary line between the United States and any foreign country, contrary to the quarantine laws of any one of said United States, into or through the jurisdiction of which said vessel or vehicle may pass, or to which it is destined, or except in the manner and subject to the regulations to be prescribed as hereafter provided. Act of April 29, 1878, chap. 66, § 1; 20 Stat. at Large, 37.

2. "Whenever any infectious or contagious disease shall appear in any foreign port or country, and whenever any vessel shall leave any infected foreign port, or having on board goods or passengers coming from any place or district infected with cholera or yellow fever, shall leave any foreign port, bound for any port of the United States, the consular officer, or other representative of the United States at or nearest such foreign port shall immediately give information thereof to the supervising surgeon-general of the Marine Hospital service, and shall report to him the name, the date of departure, and the port of destination of such vessel, and shall also make the same report to the health officer of the port of destination in the United States, and the consular officers of the United States shall make weekly reports to him of the sanitary condition of the ports at which they are respectively stationed."

Powers and duties of surgeon-general, in execution of the act declared. *Ib.*, § 2.

3. Powers and duties of surgeon-general, of medical officers, and customs officers declared. *Ib.*, §§ 3, 4.

4. "Whenever at any port of the United States, any State or municipal quarantine system may now, or may hereafter exist, the officers or agents of such system shall, upon the application of the

respective State or municipal authorities, be authorized and empowered to act as officers or agents of the national quarantine system, and shall be clothed with all the powers of United States officers for quarantine purposes, but shall receive no pay or emoluments from the United States. At all other ports where, in the opinion of the Secretary of the Treasury, it shall be deemed necessary to establish quarantine, the medical officers or other agents of the Marine Hospital service shall perform such duties in the enforcement of the quarantine rules and regulations as may be assigned them by the surgeon-general of that service under this act: *Provided*, that there shall be no interference in any manner with any quarantine laws or regulations as they now exist or may hereafter be adopted under State laws." *Ib.*, § 5.

5. *National Board of Health.*—"There shall be established a National Board of Health, to consist of seven members, to be appointed by the President, by and with the advice and consent of the Senate, not more than one of whom shall be appointed from any one State, whose compensation, during the time when actually engaged in the performance of their duties under this act, shall be $10 per diem each, and reasonable expenses, and of one medical officer of the army, one medical officer of the navy, one medical officer of the Marine Hospital service, and one officer from the department of justice, to be detailed by the Secretaries of the several departments and the attorney-general, respectively, and the officers so detailed shall receive no compensation. Said Board shall meet in Washington, within thirty days after the passage of this act, and in Washington or elsewhere, from time to time, upon notice from the president of the board, who is to be chosen by the members thereof, or upon its own adjournments, and shall frame all rules and regulations authorized or required by this act, and shall make or cause to be made such special examinations and investigations, at any place or places within the United States, or at any foreign ports, as they may deem best, to aid in the execution of this act, and the promotion of its objects." Act of March 3, 1879, chap. 202, § 1; 20 Stat. at Large, 37.

6. "The duties of the National Board of Health shall be to obtain information upon all matters affecting the public health, to advise the several departments of the government, the executives of the several States, and the commissioners of the District of Columbia, on all questions submitted by them, or whenever, in the opinion of the Board, such advice may tend to the preservation and improvement of the public health." *Ib.*, § 2.

ALABAMA.

Title 13, *chap.* 4, *Feb.* 19, 1875, p. 130.

SECTION 1. The Medical Association of the State of Alabama, organized in accordance with the provisions of the Constitution, which was adopted by the association at its annual meeting, in the city of

Tuskaloosa, in March, 1873, is constituted the Board of Health of the State. § 1536.

§ 2. The Board of Health of this State shall take cognizance of the interests of health and life among the people of the State; shall investigate the causes and means of prevention of endemic and epidemic diseases; shall investigate the influences of localities and employments upon the public health; shall from time to time make to the General Assembly, such suggestions as to legislative action as, in their judgment, may seem advisable, and shall be in all ways the medical advisers of the State. § 1537.

§ 3. The Board of Health shall make to the Governor, for transmission to the General Assembly, an annual report of their investigations and transactions, of which annual report there shall be published as other reports transmitted through the Governor to the General Assembly, a sufficient number of copies for distribution among the members of the General Assembly, and the members of the Board of Health of the State, and such additional numbers as may be deemed advisable, for the purpose of exchanging for reports of similar associations in other States. § 1538.

§ 4. The county medical societies in affiliation with the Medical Association of the State, and organized in accordance with the provisions of the Constitution, are constituted boards of health for their respective counties, and as such shall be under the general direction of the Board of Health of the State. § 1539.

§ 5. The county boards of health thus established shall have only advisory powers, and shall be conducted without expense to the State, or to their respective counties, except under the condition provided for under section following. § 1540.

§ 6. The competent legal authority of any county in this State, or of any incorporated city or town of any such county, shall, whenever, in their judgment, it becomes expedient to do so, invest the board of health of the county with such executive powers and duties for the promotion of the public health, and under such rules and stipulations as may be agreed upon between the two parties. § 1541.

§ 7. In any such agreement as is contemplated in the preceding section, the right to elect or appoint the officers and servants employed in the administration of the sanitary regulations so agreed upon shall, in all cases, be reserved to the Board of Health; and all questions relating to salaries, appropriations and expenditures shall be reserved to the legal authorities of the county, town, or city. § 1542.

§ 8. No board of health, nor advisory nor executive medical body of any name or kind, for the exercise of public health functions, shall be established by authority of law in any county, town or city of this State, except such as is contemplated by the provisions of this chapter; but nothing in this chapter shall be so construed as to prevent any of the boards of health created herein from accepting and executing any special powers that may be granted them by the General Assembly of the State. But this chapter may be changed, modified or repealed at any time at the pleasure of the General Assembly. § 1543.

Title 13, *chap.* 2. When any health officer in any town makes complaint, on oath, that there is good cause of suspicion or belief that there is on any premises in such town, or in any vessel within its limits or vicinity, any cause of disease or infection, necessary to be destroyed or removed, or one or more persons, strangers to the place, infected with a dangerous contagious disease, and that he has been refused admission, any justice of the corporation or county in which such lot, house or vessel is, may issue his warrant to the proper officer, directing him to enter such premises or vessel, and, under direction of the health officer, to remove such infected person, and remove or destroy such source of infection or disease. § 1505.

All expenses incurred in executing such warrant, and for maintaining, nursing and curing any person removed under the provisions of this chapter, must be paid by such person, or the owner of the premises or vessel; or, if not so paid, then by the town (including city), the person by whom such should have been paid remaining liable. § 1506.

Any person coming into any town by land, from a place infected with a contagious disease, may be compelled to perform quarantine by the health officer, and restrained from traveling until discharged. § 1512.

California.

§ 3008. *Powers of health officer.*—He may, in his discretion, cause the removal to a hospital of any and all persons, within the limits of the city and county of San Francisco, infected with variola. *Amendment approved March* 9, 1878.

§ 3061. It shall be the duty of the board of trustees, council or other corresponding board, of every incorporated town and city of this State, to establish, by ordinance, a board of health for such town or city, to consist of five persons, one at least of whom shall be a practicing physician and a graduate of some reputable school of medicine, and one, if practicable, a civil engineer. Every local board of health established in this State must:

First. Supervise all matters pertaining to the sanitary condition of their town or city, and make such rules and regulations thereto, as are necessary and proper, and not contrary to law.

Second. Report to the Secretary of the State Board of Health at Sacramento, at such times as the State Board of Health may require:

a. The sanitary condition of their locality.

b. The number of deaths, with the cause of each as near as can be ascertained, within their jurisdiction, during the preceding month.

c. The presence of any epidemic or other dangerous, contagious or infectious disease, and such other matters within their knowledge or jurisdiction as the State Board may require.

The trustees, council or other legislative board, by whatever name known, of any incorporated city or town of this State, may by ordinance adopt any portion of articles 3 and 4 of this chapter, or either of them, for some definite period of time, as may seem proper for the regulation of sanitary matters within their town or city. *Amendment approved March* 19, 1878; *amendments March* 9, 1877–8, 59, *took effect immediately.*

[The act of March 19, 1878, from which the foregoing amendment is taken, contained the following additional section:

§ 2. This act shall not extend to any incorporated city or town, or city or county, for which health regulations are provided by special statutes.]

§ 3033. Whenever it shall be certified to the Board of Health, by the health officer, that any building, or part thereof, is unfit for human habitation, by reason of its being so infected with disease as to be likely to cause sickness among the occupants, or by reason of its want of repair has become dangerous to life, said Board may issue an order, and cause the same to be affixed conspicuously on the building, or part thereof, and to be personally served upon the owner, agent or lessee, if the same can be found in this State, requiring all persons therein to vacate such building, for the reasons to be stated therein as aforesaid.

Such building, or part thereof, shall within ten days thereafter be vacated, or within such shorter time, not less than twenty-four hours, as in said notice may be specified; but said Board, if it shall become satisfied that the danger from said house has ceased to exist, may revoke said order, and it shall thenceforth become inoperative. *New section approved March* 9, 1878; *amendments* 1877–8, 58; *took effect from passage; repealing conflicting acts.*

§ 3034. Every physician in the city and county shall report to the health officer, in writing, every patient he shall have laboring under Asiatic cholera, variola, diphtheria, or scarlatina, immediately thereafter, and report to the same officer every case of death from such disease, immediately after it shall have occurred.

§ 3026. Superintendents of cemeteries within the boundaries of the city and county of San Francisco must return to the health officer, on each Monday, the names of all persons interred or deposited within their respective cemeteries for the preceding week. *Amendments approved March* 9, 1878; *amendments* 1877–8, 57; *took effect from passage; repealing conflicting acts.*

§ 3009. The Board of Health *must* appoint a quarantine officer, who shall be a physician in good standing, a secretary, one assistant secretary, six health inspectors, one market inspector, and one messenger, whose duties must be fixed by the Board of Health; they must also appoint one superintendent physician, one resident physician, one steward, one matron, one apothecary, two visiting physicians, two visiting surgeons, as officers of the city and county hospital in and for the city and county of San Francisco, one each of said visiting physicians and surgeons to be nominated by the faculty of the medical department of the University of California, and one each of such visiting physicians and surgeons to be nominated by the Medical College of the Pacific. Said Board may also appoint one engineer for the city and county hospital. They may also appoint one superintendent, one resident physician, one matron, and such other employees as are now authorized by law to be employed in and for the alms-house of said city and county. They shall have also power to appoint and prescribe the duties of one city physician and one assistant city physician, who shall be designated as police surgeons, and whose duty it shall be to make all autopsies required of them by the coroner of said city and county. And such Board is also empowered to appoint such employees and such medical attendants as they may deem necessary in the health department, and in all the various institutions which are by law placed under their supervision ; and the compensation of such employees and medical attendants shall be fixed by the Board of Health. The appointing power aforesaid is vested solely in said Board of Health, and said Board shall have power to prescribe the duties of said appointees, and shall not remove the same without just cause. The heads of departments appointed by the Board of Health, to-wit: The health officer, resident physician of city and county hospital, and superintendent of alms-house, shall not be removed except by a concurrence of four members of said Board of Health. *Amendment approved March* 9, 1878; *amendments* 1877–8, 52; *took effect from passage; repealing conflicting acts.*

SOUTH CAROLINA.

There does not appear to be in this State any provision for the establishment of local boards of health for cities, towns or villages, but there is specific legislation on the subject of quarantine, to-wit, chapter 33 of the Revised Statutes (A. D. 1873); No. 141, Statutes at large, § 2 (A. D. 1879). The quarantine laws are of very similar import to those existing in other States, previously referred to, an appeal being also given to any person aggrieved by any decision or order of the health officer to the Governor, Attorney-General and Comptroller-General, constituting a board of appeal. By chapter 34 of the Revised Statutes power is also given to the Governor to make such regulations as he may deem necessary to prevent the entrance of Asiatic cholera and prevent the spreading of it in the State.

NORTH CAROLINA.

By chapter 117 (A. D. 1879) it is enacted that the Medical Society of North Carolina shall choose from its active members, by ballot, six members, and the Governor shall appoint three other persons (of whom one shall be a civil engineer) to constitute the Board of

Health; that this Board shall make sanitary investigations and inquiries, the causes especially of epidemics, the sources of mortality, the effects of locations, employments, and conditions upon public health; they shall be the medical advisers of the State. The members shall be chosen, two for six years, two for four and two for two. They shall receive no pay except when on actual duty.

There shall be an auxiliary board of health in each county. These boards shall consist of the physicians eligible to membership in the State Medical Society, the mayor * * * of county town, the chairman of the county commissioners, and the city surveyor, otherwise the county surveyor. From this number one physician to be chosen, to act for two years, with the title of superintendent of health. His duty shall be to gather vital statistics (*inter alia*).

These boards of health are to be subordinate to the State Board. Inland quarantine shall be under the control of the superintendent who, acting under the advice of the local board, shall see that smallpox, scarlet fever, yellow fever and cholera shall be properly quarantined or isolated (at the expense of the city or town in which it occurs).

Any violation of the rules promulgated shall subject the offender to a fine of $2,500, and imprisonment for not longer than twenty days in the public jail.

Abatement of Nuisances.

Upon due notification of the existence of a nuisance upon any premises the parties failing to abate the same shall pay a fine of one dollar a day, dating from twenty-four hours after the notification has been served, *provided* that if the party notified is unable to carry out the directions of the superintendent, it shall be done at the expense of the town or city.

The State Board of Health shall keep a supply of fresh animal vaccine virus. The county superintendents shall vaccinate and revaccinate all applying for such service, free of charge, and shall vaccinate every person admitted into a jail, work-house, poor-house or public school, unless they be satisfied that such person is already successfully vaccinated. There are other duties connected with coroner's inquests which devolve upon him, but they relate to the ends of justice rather than to the public health.

COLORADO.

By section 3 of an act of the Legislature of this State (A. D. 1879), amending "An act to reduce the law incorporating the city of Denver," etc., the city council shall cause sewers to be constructed in any district whenever the Board of Health recommend the same as necessary for sanitary reasons, and said recommendation is approved by the city council.

And by an act of the same date a sum of $800 is appropriated out of any money in the State treasury, not otherwise appropriated, for the expenses of the State Board of Health during the years 1879 and 1880.

CONNECTICUT PUBLIC HEALTH.

§ 1. By chapter XI, title 16 of the Revised General Statutes of Connecticut, the justices of the peace and selectmen in each town shall establish a board of health and have all the power necessary and proper for preserving the public health and preventing the spread of malignant diseases therein, and may appoint a president and health officers or health committees and delegate to them their powers. Any number of members at a properly convened meeting shall be a quorum, and may appoint a clerk to record the acts of the board.

§ 2. Duty of board to examine into all nuisances and sources of filth injurious to the public health, and cause the removal of all filth within town; all expenses incurred to be paid by offending party, and if not known, then by the town. The owner or occupant of private property on which such nuisances are found shall, if he neglect to remove the same after notification, be fined not less than twenty dollars nor more than one hundred dollars, and pay the expense and costs of such removal, and after expiration of time allowed for such removal, board may abate or remove such nuisance, and such board, health officer, or committee may enter all premises where they have cause to suspect such nuisance or filth to exist.

§ 3. Any one willfully violating any of the rules of the board, after due notice and publication of them, shall forfeit not less than fifteen dollars nor more than one hundred dollars.

§ 3. The board of health in any town contiguous to navigable waters may assign where any vessels shall, if need be, perform quarantine.

§ 9. No master of a vessel liable to perform quarantine shall fraudulently attempt to evade or elude quarantine by false declarations, or suffer to be landed any person or thing contrary to the provisions of this act, or permit any person to board such vessel before it shall have been visited by the officer of health.

§ 10. Health officer or member of the board of health may, under directions of the board, direct any vessel liable to quarantine to be cleansed, and any sick persons found therein to be removed and cared for, and any passenger, and such of the mariners as the master may not require, to be removed on shore and secluded for fourteen days; any person visiting, without permission, any person so confined, shall be liable to a like confinement and penalty.

§ 12. Board of health of any town may interdict communication between it and any town or place in which any contagious or malignant disease is prevalent.

§ 13. Every taverner or lodging-house keeper shall, within twelve hours of any lodger falling sick of any malignant or contagious disease, between 1st May and 1st November, report the same in writing to board of health.

§ 14. Any justice of the peace may issue his warrant to any proper officer, or indifferent person, if need be, requiring him to execute the same.

§ 16. Boards of health may order into confinement, in any place to be designated by the board, any person whom they have reasonable ground to believe to be infected, etc.

§ 17. Boards of health may adopt rules for vaccination, the expenses, in whole or in part, to be paid out of the town treasury.

§ 18. Any person refusing to be vaccinated, unless in the opinion of a physician other than the physician of the board of health, it would not be prudent on account of sickness, shall forfeit $5 to the town.

§ 19. Every person violating any provision of the preceding sections, for which no other penalty is provided, shall be fined not exceeding $500, or imprisoned not exceeding six months, or both.

DELAWARE.

By Revised Statutes of this State (A. D. 1874), chapter 46, the Governor shall appoint three physicians in each county to be health officers for such county.

Their duties shall be to board vessels and investigate the state of the persons and cargo.

Health officers may refuse to permit landing of any person or goods upon making a report thereof to the proper authorities, and may refuse permisson to any person to go on board such vessel.

The proper authorities, therein specified, may, under the advice of the health officer, make proclamation of the prevalence of any infectious disease in any port or place, and all placed on board any vessel from such port or place shall be subjected to quarantine, and the vessel be not allowed to approach within certain limits therein mentioned.

And further, if any person traveling on foot from any infected place, shall after proclamation issued, enter any place thus proscribed, or shall violate any of the regulations, he shall forfeit and pay $40.

By the Laws of 1879, chapter 21, Governor shall appoint seven physicians, members of the medical society; three of whom shall be residents of New Castle county, and two each of Kent and Sussex counties, who shall constitute the Board of Health of the State. Term of office of one from each county shall expire every two years.

Members of the Board shall receive no salary, but actual expenses when engaged on duties of the Board, shall be allowed. They shall meet at least once in six months.

Said Board shall encourage establishment of local boards of health; shall make inquiries respecting disease, epidemics, etc., and all health officers and boards of health shall communicate with State Board, and State Board shall supply all information to local boards. State Board may require information from all public dispensaries, asylums, prisons and schools, and from all other public institutions, relating to the proper discharge of the duties of the State Board.

They shall have authority to make special inspection of hospitals, prisons, asylums, alms-houses, etc., and report the result to the Legislature at each regular session.

GEORGIA.

§ 1375. According to the Code of the State of Georgia, part 1, title XVI, chapter 2, the corporate authorities of any city or town may establish in them, respectively, or in their vicinity, hospitals or pest-houses, to be subject to such regulations, not contrary to law, as such authorities may make, to prevent the spread of infectious or contagious diseases ; but where such authorities may establish such hospitals, etc., out of their own jurisdictional limits, such shall be only on land acquired by such corporations for protection against the spread of diseases within their own limits. In all other cases the Ordinary of the county is vested with the power to establish such hospitals and make such regulations.

§ 1376. *Quarantine.*-The corporate authorities of such town may prescribe the quarantine to be observed by all vessels arriving within the harbor or vicinity of such town, and all legal regulations therefor, extending to all persons, goods and effects arriving in such vessels, and to all persons going on board the same. Any person violating such regulations, after due personal notice, or after five days' public notice, as therein described, shall be guilty of a misdemeanor, and on conviction, shall be liable to a fine not exceeding $500, or such other penalty, not exceeding $100, in lieu of the above, as may be prescribed in any ordinance or by-laws of any corporation having power to pass ordinance or by-law.

§ 1377. Any town may establish a quarantine ground at any place within the harbor, if a seaport town, but not so as to interfere with the rights of private property ; and the jurisdiction of the corporation of Savannah shall, in cases of quarantine, extend to all ships, etc., entering any port or inlet from Ossabaw sound to Tagbee, including all inlets, creeks and rivers within those limits.

§ 1378. The health officer or visiting physician may, under the direction of the corporate authorities, cause any vessel arriving therein, or in the vicinity, to be removed to the quarantine ground or other place to be inspected, and any master, seaman, or passenger belonging to a vessel supposed to have infection on board, or from any port where infectious disease prevails, refusing to answer, on oath, inquiries on the subject, made by any health officer, shall be guilty of a misdemeanor, and liable to a fine of $100.

§ 1379. Any person ordered to perform quarantine, escaping, may be arrested under warrant and delivered to the custody of the officers of the quarantine, and any person attempting to escape may be forcibly detained.

§ 1380. The master of any vessel ordered to perform quarantine shall deliver his bill of health and manifest, log book and journal ; failing to do so, or to repair to quarantine ground after notice, or to depart thence, without authority, he shall be guilty of a misdemeanor, and, on conviction, shall be fined not less than $200.

§ 1381. Any person coming into town by land from a place infected may be compelled to perform quarantine by health officer, under direction of the corporate authorities, and restrained from traveling until discharged. And any person infringing this regulation shall, upon conviction, be fined not exceeding $100.

§ 1382. Pilots are required to make strict inquiry as to the sanitary condition of vessels before entering them, and if it be found that any vessel is infected they shall not enter it, under a penalty of $100 and removal from his office ; and any master refusing to answer such inquiries, or giving false information, may be fined a sum not exceeding $500.

§ 1383. No person on board a vessel in which such disease exists, or whilst such ship is performing quarantine, shall be permitted to come on shore from such vessel without permission, under the penalty of fine and imprisonment at the discretion of the court ; and any person going on board such vessel (except the health officer or visiting physician) and returning without such permission shall be liable to the same penalty.

§ 1384. The Governor of the State may, by proclamation, give such orders and make such regulations to prevent the spread of infectious or contagious diseases as he may deem proper, and any one violating the same may be fined or imprisoned at the discretion of any court of competent jurisdiction.

§ 1385. Violators of quarantine may be indicted in any county in which they may be found, and be fined in not exceeding $500, and imprisoned in the common jail at the discretion of ihe court.

§ 1386. Any physician or other person who shall conceal a case of small-pox or varioloid, by not giving immediate notice thereof to the proper authority, may be indicted and fined in not exceeding $500, or imprisoned at the discretion of the court.

§ 1387. All fines and forfeitures arising out of the violation of any of these regulations, may be applied in aid of the quarantine and sanitary laws, and toward the support of the poor.

§ 1388. The health officer or the authorized visiting physician of any port shall give a certificate of the performance of quarantine by any vessel to the master thereof under a penalty, for every refusal, of $100, and in case of such refusal, or there being no such health officer or physician, such certificate shall be granted by the constituted authorities of such port or place.

§ 1390. The ordinary of each county, or the corporate authorities of any town or city are authorized to provide a suitable hospital for those suffering from small-pox, and to furnish them with medical or other attention.

§ 1391. Such authorities may provide proper quarantine regulations to prevent the spread of the disease ; provided that no person shall be forced to go to such hospital when properly provided and guarded at home. Said court shall pay any expense of such case.

§ 1393. The Governor is required to procure the necessary quantity of genuine vaccine matter, and have the same transmitted to the ordinaries of each county for immediate use.

ILLINOIS.

An Act to create and establish a Board of Health in the State. Approved May 25, 1877; *in force July* 1, 1877.

The Governor, with the advice and consent of the Senate, shall appoint seven persons, who shall hold office for seven years, to constitute a Board of Health. Provision that the term of one of the seven first appointed shall expire on the 30th day of December of each year.

The State Board of Health shall have charge of all matters relating to quarantine, and shall have power to make rules and regulations, and sanitary investigations for the preservation and improvement of the public health; and it shall be the duty of all police officers, sheriffs, constables, etc., to enforce such rules.

Penaties to be devoted to a special fund for the carrying out the objects of the law.

Board shall appoint a President and Secretary — the latter to receive a salary and expenses as fixed by the Board. No other member of the Board to receive compensation. Board to make an annual report to the Governor, including vital statistics, and such knowledge respecting diseases, and such instruction on the subject of hygiene, as may be thought useful for disseminating among the people.

A sum of $5,000, appropriated for salary of Secretary, expenses of the Board and all other expenses.

By article 14 of chapter 139 of the Revised Statutes, the supervisors, assessor and town-clerk of every town shall constitute a board of health, and on the breaking out of any contagious disease in their town or immediate vicinity, shall have power to make and enforce any rules and regulations tending to check the spreading of such disease, within the limits of such town, as they may think proper; they shall have power to shut up any house or place where any infected persons may be, and cause notices of warning to be put thereon; or remove such person to any pest-house, within the limits of such town, at the expense of the party so moved, if able to pay, or otherwise at the expense of the town. Nothing in this section to apply to any town, or part thereof, lying within the corporate limits of any incorporated city or village.

By chapter 24, article 5, section 75, the city council in cities, and president of the board of trustees in villages, shall have power to declare what shall be a nuisance, and to abate the same, and to impose fines upon those who may create, continue or suffer nuisances to exist.

And by sections 76, 77 and 78, to appoint a board of health, and prescribe its powers and duties; to erect and establish medical dispensaries, and do all acts necessary for the promotion of health, etc.

IOWA.

By the public statute law of Iowa, title 1, chapter 10, section 525, the city council or the trustees of incorporated towns shall have power to establish a board of health, with all powers and duties specified in sections 415–419 of the ninth chapter of this title, viz., respecting nuisances, sources of filth, and causes of sickness. Notice of such regulations to be published in a newspaper published in the city or township, or where there is no newspaper, by posting in five public places therein. The trustees or council may order, in writing, the owner or occupier to remove any nuisance, source of filth, or cause of sickness found on private property within such time as they may deem reasonable, under a penalty not exceeding $25 *per diem* during which he knowingly permits such nuisance, etc., to remain after time prescribed for its removal. If order not complied with, the trustees or council may order the removal at the expense of such owner or occupier.

Power is given to trustees, etc., to employ all such persons as shall be necessary to carry such orders into effect, and to fix their compensation; to employ physicians in case of poverty, and to take such action as they may deem necessary for the preservation of the public health.

Any person willfully violating any of the regulations shall be guilty of a misdemeanor, and shall be liable to a fine not exceeding $100, and imprisonment not exceeding thirty days. The city council is also empowered to establish a city watch, or police, to organize the same under the general supervision of the mayor, etc.

In establishing boards of health, etc., as here provided, the city acts as a *quasi* sovereignty, and is not responsible to individuals for the neglect or non-feasance of its agents or officers in executing the powers so conferred. *Ogg* v. *City of Lansing*, 35—495.

By section 393, title IV, chapter 9, the township trustees are the board of health, and shall have charge of all public cemeteries within the township when the same is not controlled by other trustees or incorporated bodies.

State Board of Health.

By statute, title XI, chapter 8 (18th General Assembly, chapter 151), section 1, the Governor, with the approval of the Executive Council, shall appoint nine persons, one of whom shall be the Attorney-General of the State, one civil engineer and seven physicians, who shall constitute a State Board of Health, to hold office for seven years, the terms of office of the seven physicians first appointed being so arranged that the term of office of one shall expire on the 31st day of January of each year.

§ 2. State Board of Health shall have charge of all matters of quarantine, shall make such regulations as they deem fit and such sanitary investigations as they may deem necessary for the public health.

§ 11. Board shall make a biennial report to the Governor

§ 12. Provides for remuneration of officers.

§ 13. The mayor and aldermen of each incorporated city, the mayor and council of any incorporated town or village, in the State, or the trustees of any township shall have all the powers and perform all the duties of a board of health within the limits of the cities, towns and townships of which they are officers.

§ 14. The physician appointed by the local board shall be the health officer within its jurisdiction.

§ 15. At least once a year such physician and the clerk of the board of health shall report to the State Board of Health their proceedings.

§ 16. Local boards of health shall make such regulations respecting nuisances, sources of filth and cause of sickness within their jurisdiction, and on board any boat in their ports or harbors, as they shall judge necessary for the public safety, and any person violating such shall be liable to a penalty of not less than $25 for every day during which he knowingly violates or disregards the same.

Other classes follow identical with those previously referred to under title I, chapter 10, with the addition of the power to remove the occupants of any condemned building by force and close up the premises, not again to be occupied as a dwelling place without the written sanction of the board.

§ 20. Where board of health is refused admission to any place, etc., a justice may issue his warrant to the sheriff, etc., to enter by force and remove, destroy and prevent such nuisance, source of filth or cause of sickness, under the direction of two or more members of the board of health as are required to accompany him.

§ 21. Care of any infected person coming from abroad, or residing in any city, etc., within the State, or who shall have lately been infected with small-pox or other dangerous sickness, shall be taken by the board of health, who shall remove him to a separate house, if such can be done without damage to his health, and provide proper nurses and supplies at the expense of the county to which he belongs, if himself, his parent or other person liable for his support are unable to discharge the same.

§ 22. If he cannot be removed without damage to his health, the board shall make provision for him in the house in which he may be.

§ 23. Any justice of the peace may, upon application by a local board or any member thereof, issue his warrant for the removal of any person suffering from infectious or contagious disease, or to take possession of condemned houses and lodgings, and to provide nurses and attendants and other necessaries for the care, safety and relief of the sick.

§ 24. Clerk of each board of health shall transmit his annual report to the Secretary of the State Board of Health within two weeks after the November meeting, being required to meet on the first Monday in May and first Monday in November in each year. Such report shall embrace a history of any epidemic which may have prevailed within his district. The failure of the clerk to forward such report shall be considered a misdemeanor, subject to a fine of not more than $25.

§ 25. All laws in conflict with this act are repealed.

By statute, title XXIV, chapter 10, the selling unwholesome food, adulteration of food or liquor, drugs or medicines, neglecting to label poisons, inoculating with small-pox with intent to spread the disease, selling druged liquors, throwing dead animals into any river, well, spring, stream, etc., selling diluted milk, or using poisonous material in making cheese or butter, manufacturing for sale, or exposing for sale, oleomargarine without being labeled as such, is strictly forbidden under penalty of fine or imprisonment, and in the last-defined offense the offender shall be guilty of a misdemeanor. (18th General Assembly, chap. 39.)

Also the manufacturing and selling lard rendered from swine that have died of disease, without having first labeled the cask, barrel, etc., containing it accordingly, or, if sold without casks, barrel or other receptacles, without having informed the purchaser that the lard is from hogs who have died of disease, is punishable with fine or imprisonment. (18th General Assembly, chap. 137.)

By the Revised Code of Iowa, title XI, chapter 6 (chap. 151, Laws of 1880), it is enacted that the Governor, with the approval of the Executive Council, shall appoint nine persons, one of whom shall be the Attorney-General, one a civil engineer, and seven physicians, who shall constitute a board of health, to hold office for seven years —*provided* that the terms of office of the seven physicians first appointed shall be so arranged by lot that the term of one shall expire on the 31st of January of each year — vacancies to be filled up by the Governor, etc., as before. State Board shall have charge of all matters relating to quarantine, shall have authority to make such rules and regulations and such sanitary investigations as they may deem necessary ; and it shall be the duty of all public officers, etc., to enforce such rules, etc. They shall elect a Secretary, who shall receive a salary not exceeding $1,200 per annum and other expenses, but no other member of the Board shall receive a salary.

Board shall make a biennial report to the Governor, including information relating to vital statistics, and such knowledge respecting diseases and instruction on the subject of hygiene as may be thought necessary. The sum of $5,000 appropriated for salary of Secretary, his contingent expenses and the expenses of the Board.

The mayor and aldermen of each incorporated city, the mayor and council of any incorporated town or village in the State, or the trustees of any township, shall have and exercise all the powers and perform all the duties of a board of health within their respective limits.

Every board of health shall appoint a competent physician to the board as health officer. The local boards of health shall report at least once a year to the State Board. They shall make such regulations respecting nuisances, sources of filth, and causes of sickness within their jurisdiction, and on board any boats in their ports or harbors as they shall judge necessary. They may order any owner of any property to remove (at his own expense) any nuisance, sources of filth or cause of sickness, within any reasonable time, and if owner or occupier neglects, he shall forfeit not exceeding $20 for every day during which he knowingly and willfully permits such nuisance, etc., to remain. And the board may cause the nuisance, etc., to be removed, and all expenses incurred shall be paid by the owner, occupier, etc., to be recovered by civil action in the name of the State.

Board to have power to purify dwellings, or may require occupants to quit the premises until such time as the board shall grant permission, in writing, for the re-occupation of premises. Board possesses power to enter any place, building or vessel in their township to prevent or remove any nuisance, source of filth or cause of sickness, and upon complaint of refusal to permit such entry, any justice of the peace of his county may issue his warrant directing the destroyal, removal or prevention by the sheriff or constable, etc., under the personal direction of two or more members of the board.

Board may make such provision as they may think fit by removing any person lately infected with small-pox, or other dangerous sickness, to a separate house, if possible, and by providing nurses and supplies, charged to him or those liable for his support, if able, otherwise at the expense of the county to which such sick person belongs. If such person cannot be moved without damage to his health, like provision shall be made for him in the house in which he may be.

Any justice of the peace, on application by the local board or any member thereof, shall issue his warrant directing, under the direction of the board of health, the removal of any person infected with contagious diseases, or requiring the sheriff, etc., to take possession of condemned houses and lodgings, and to provide nurses and attendants and other necessaries for the care of the sick.

By section 525, chapter 10, title VI, the city council of any city shall have power to establish such a board of health as above specified. And by section 415, chapter 9, title IV, township trustees shall have power to make whatever regulations they deem necessary for the protection of the public health, and respecting nuisances, sources of filth, and causes of sickness within their respective townships—*provided* that their jurisdiction shall not extend to any city or incorporated town situated therein. The same powers are conferred by the subsequent sections as those described above, and any person willfully violating any of the regulations published by the trustees shall be guilty of a misdemeanor and subject, upon conviction, to a fine not exceeding $100 or imprisonment not exceeding thirty days. All expenses incurred by the trustees of a township in the exercise of their powers as a board of health shall be borne by the township.

KENTUCKY.

By the General Statutes of Kentucky, chapter 102, article I, section 1, any person willfully or designedly importing the small-pox or any variolus or infectious matter of the said disease into this State, or causing the same to be done, shall forfeit the sum of $1,000.

By article II, all persons of and above twenty-one years of age who have not been vaccinated, or not successfully, shall within three months after this revision procure their own vaccination or re-vaccination.

And all parents and guardians of minors shall have the same vaccinated, and any parent or guardian of a child born hereafter shall have the same vaccinated within twelve months after its birth, or after it comes under his or her custody.

Persons coming from abroad, if not before vaccinated, shall procure the vaccination of themselves and children within six months after coming into the State.

Practicing physicians shall be appointed in each district to vaccinate the poor — his charges to be paid out of the county levy.

City council of every city, and the board of trustees of every town, are invested with power, and required to make such regulations, with fines and penalties attached, as will secure the vaccination of all the inhabitants of such cities and towns.

All vaccinations with pure vaccine.

Each person, for every failure or refusal to comply with the requirements imposed, shall be fined not less than $5 nor more than $20 for each failure or refusal.

Each justice of the peace, member of a city council or of a board of trustees of a town, and every physician, superintendent of a charitable institution, and keeper of the penitentiary, for every failure or refusal to perform the duties of his office, shall be fined not less than $20 nor more than $50.

By article III, patients in hospitals having small-pox are prohibited all intercourse with others not so infected, and are not to be discharged until thoroughly cleansed, under a penalty of $10.

Persons never having had small-pox, and going into an infected place shall be sent to a safe place, and not discharged except upon certificate of physician.

Any person willfully endeavoring to spread the infection shall be subject to a fine of $500 or imprisonment for six months.

And further, any person, believing himself at the time to be suffering from small-pox, who shall go upon any public highway or street or to any place of public assembly, or who shall go on board any steamboat, railway car, or other public conveyance, and all persons knowingly aiding or assisting any one thus to offend shall be guilty of a misdemeanor, and upon conviction shall be fined not less than $100 nor more than $1,000.

LOUISIANA (INCLUDING NEW ORLEANS).

On arriving at the quarantine grounds below New Orleans and waiting there a day, a ship, no health officer appearing, without any effort to procure one, ascended the river. On nearing the river she was boarded by the boarding physician, who reported to the Board of Health that she was in a filthy condition, and that there had been several deaths on her by pestilence.

The Board thereupon compelled her to return to quarantine. *Held*, the ship can recover no damages, having assumed the risk of being compelled to return; nor will a court interfere without conclusive proof of the illegal exercise of a discretion confided to sworn officers. *Rudolphe* v. *New Orleans*, 11 A. 242.

By act 8th of February, 1858, No. 4, the United States were granted the use of land at the quarantine station to construct warehouses; and by act of 18th March, 1858, No. 215, the property so granted was exempted from taxation, State or municipal; 1855, Nos. 11, 336, to which the act of 18th March, 1858, No. 269, is supplementary.

The quarantine act, 1855, s. 13, No. 336, defines a certain offense to consist, among other things, in the bringing of a ship from a place proclaimed by the Governor of the State to be infected. *Held*, that it suffices for an information to aver, that the ship came from "*an infected place*" without averring that she came from "*a place proclaimed by the Governor of the State to be infected.*" And yet the only evidence admissible under the statute to prove the infectious character of the ship's port of departure is the Governor's proclamation. *State* v. *Patterson*, 14 A. 46.

Where, in an action to recover fees of inspection under the quarantine act of 15th March, 1855, No. 336, the question presented was, not whether the act be constitutional, but whether the Board of Health was authorized by the statute to charge fees for the inspection of vessels at any other station than that on the river Mississippi, an appeal from the judgment therein rendered was dismissed. *Board of Health* v. *Pooley*, 11 A. 743.

The sanitary commission appointed by the Board of Health can claim no compensation from the city. First, because they acted as agents, and the law presumes, gratuitously. Second, because if they were officers, this was a public trust, without fees. Third, because there was no agreement on the part of the city to pay. *Barton et als.* v. *New Orleans*, 16 A. 317.

The State has the right, in the exercise of its police powers, to pass a law ordering all indigent cases of small-pox to be sent to a designated locality at the expense of the local authorities. *State, ex rel. J. J. Hayes*, v. *City of New Orleans*, 27 A. 522. Act No. 60 of 1872.

MAINE.

By the Revised Statutes of the State of Maine, passed January 25, 1871, title II, chapter 14, sections 34, 35 and 36, a town may choose a board of health of not less than three, nor more than nine persons, who shall have all the powers, and be subject to all the duties, restrictions, liabilities, and penalties of the municipal officers, and health committee or officer.

A town may provide for the inoculation of its inhabitants with the cow-pox, under the direction and control of the health committee, health officer, or board of health; and raise all necessary sums to defray the expense thereof, or such part as they may think proper.

Towns may establish by-laws for the preservation of health, and for protection against infectious diseases.

By this same chapter, extensive powers are given to municipal officers, and their duties are fully defined in connection with contagious and infectious diseases. To them is granted the power to remove infected persons and goods; or to impress and take up convenient houses, lodgings, nurses, attendants, and other necessaries for the accommodation, safety, and relief of the sick. Compensation to the parties interested to be paid by the town.

By section 14, a town, at its annual meeting, may choose a health committee of not less than three nor more than nine, or one person to be a health officer; who shall remove, at the expense of their town, all filth found in any place therein, which, in their judgment, endangers the lives or health of any inhabitant, and require the owner or occupant, when they think necessary, to remove or discontinue any drain or other source of filth. And, by section 15, if no such committee or officer be chosen, the municipal officers shall be a health committee, and have all their power, and perform all their duties.

By section 20, the municipal officers of a seaport town may make such regulations as they may deem expedient respecting the performance of quarantine by any vessel arriving in their port; and whoever neglects or refuses to obey such regulations shall forfeit not exceeding $500, or be imprisoned not exceeding six months.

By section 21, if any pilots of such port shall neglect to make known the notice received from such municipal officers, respecting the performance of quarantine, to the master of all vessels which they board, or contrary thereto shall pilot any vessel up to said seaport town, he shall forfeit not exceeding $100.

And by section 22, if the master of a vessel fraudulently attempts to elude such directions, after notice, or lands, or suffers to be landed from his vessel, any person or thing, without permission of the municipal officers, he shall be punished as provided by section 20.

By section 24, in every seaport town where there is a health committee or officer, he may perform all the duties, and exercise all the authority of the municipal officers, in requiring the vessels to perform quarantine.

By section 26, a town may establish therein one or more hospitals, for the reception of persons having the small-pox or other disease dangerous to the public health; or the municipal officers may license any building for that purpose, under their control; but no such hospital shall be within one hundred rods of an inhabited dwelling in an adjoining town, without the consent of its municipal officers.

By section 27, if any person inoculates himself, or suffers himself to be inoculated with the small-pox, unless at some lawful hospital, he shall forfeit not exceeding $100.

By section 29, all temporary hospitals shall be subject to the regulations of the municipal officers the same as established hospitals, and where the sick cannot be removed without imminent danger, the house where the sick is shall be deemed a hospital, and subject to hospital regulations.

By section 31, any physician or other person in such hospital violating any lawful regulation in relation thereto, shall forfeit not less than $10, nor more than $100 for each offense.

By section 32, when a householder or physician knows that a person under his care is taken sick of any such disease, and fails to give notice thereof to the municipal officer, he shall forfeit not less than $10, nor more than $30, and all forfeitures shall inure to the use of the town where the offense is committed.

MARYLAND.

By statute of this State (A. D. 1880) chapter 438, a State Board of Health is established consisting of seven members, one of whom shall be a civil engineer and three experienced physicians to be appointed by the Governor, with the advice and consent of the Senate, and a Secretary, who together with the Attorney-General and the Commissioner of Health of the city of Baltimore, the last two being *ex-officio* members, shall constitute the said Board. Those members so appointed by the Governor shall hold office for four years, provided that the term of office of two shall expire on the last day of January in every second year.

The Board shall make sanitary investigations respecting the causes of disease, etc., shall inquire into all nuisances affecting the public health in any county, city or village in the State, and may apply for an injunction to restrain and prevent any such nuisance, no matter by whom or by what authority committed.

They shall organize, as far as possible, in every city, village, and legislative district local boards or advisory committees, to serve without pay, to assist the Board and make quarterly reports to the Board. In the event of an epidemic occurring in any county, city or village, said Board may take all necessary precautions and adopt any sanitary measures which may be consistent with law.

The Secretary shall be an experienced physician. He shall keep a record of all proceedings and shall, when directed by the Governor, make special inspections of public hospitals, asylums, prisons, etc., and advise generally, and collect information respecting vital statistics, and the general hygiene of the State. He shall be constituted the superintendent of vital statistics.

No member of the Board, except the Secretary, shall receive any compensation, but the actual personal expenses when engaged in duties of the Board.

MASSACHUSETTS.

Statute 1832, chapter 150, authorized the selectmen of Charlestown to appoint and locate burying places in that town, to establish the police of the burying places, to make regulations for funerals, and to appoint proper persons to carry the same into effect. Section 4 of a by-law of Charlestown provided that no person should, without leave first obtained, bring into the town any dead body, or convey through any of the streets, or bury, any dead body so brought into the town, or bury any such body in any part of his own premises or elsewhere. *Held*, that the first part of this section being unauthorized by the statute and void (which was conceded), the whole was therefore void; and also, that it was itself a prohibition, and not a regulation, and unreasonable and void. *Austin* v. *Murray*, 16 Pick. 121 (1834).

The by-laws and ordinances of the city of Boston concerning burying grounds are regulations relating to health within statute 1849, chap. 211, § 7. *Commonwealth* v. *Fahey*, 5 Cush. 408 (1850).

The General Statutes of Massachusetts, A. D. 1860, relating to the preservation of the public health (chap. 26), and to cemeteries and burials (chap. 28) contain the following provisions:

§ 1. Towns, respecting which no provision is made by special law, may choose a board of health, or health officer. If no board or officer is chosen, the selectmen shall be the board of health.

§ 2. Except where otherwise provided the city council of a city may appoint a board of health. In default of the appointment of a board of health with full powers, the city council shall have the powers and perform the duties prescribed to boards of health in towns.

§ 3. Every board may appoint a physician to the board, who shall hold his office during pleasure.

§ 4. The board shall establish the salary or other compensation of such physician, and shall regulate all fees and charges of persons employed by it.

§ 5. The board shall deal with nuisances, filth and causes of sickness, within its own town or on board of vessels within its harbor with a view to the prevention or spread of contagion or infection. Penalty for violating any of its regulations, not exceeding $100.

§ 8. Powers are given for examining all nuisances, etc., and ordering their removal within twenty-four hours or other reasonable time, and if the owner or occupant of private property on which such nuisances, etc., are found neglects to remove the same, he shall forfeit not exceeding $20, for every day during which he knowingly permits such nuisance, etc., to remain.

§ 10. If owner or occupant fails to comply, the board may cause the nuisance, etc., to be removed at the expense of such owner, occupant, or other person who caused or permitted the same, if he has had actual notice from the board of its existence.

§ 11. Board may notify the occupants, or any of them, of any cellar, room, tenement or building in its town, to quit and the premises to be put into a proper condition as to cleanliness, and if the persons so notified neglect or refuse to comply with the terms of such notice, the board may cause the premises to be cleansed at expense of the owners, and remove the occupants forcibly, and close up the premises. If the owner knowingly afterward occupies or permits the same to be occupied without the consent of the board in writing, he shall forfeit not less than $10 nor more than $50.

§ 12. When a person is convicted upon indictment of a common nuisance, the court may order it to be removed or destroyed at the expense of defendant, under direction of board of health.

§ 14. If the entry of board into any land, building, or vessel within its town be opposed, two justices of the peace of the county may issue a warrant directing the sheriff to repair to the place and destroy, remove or prevent the nuisance complained of.

§§ 15, 16. Permits for removal of any nuisance, infected article, or sick person, and a provision for the removal of such person to a separate house, etc., and for nurses and other assistance and necessaries may be made by the board, and charged upon sick person, his parents or master, if able; otherwise at the charge of the town, or if he be not an inhabitant of any town, at the charge of the Commonwealth.

§ 17. If infected person cannot be removed without danger to his health, provision to be made for him in the house in which he is.

§ 18. Travelers may be intercepted and examined by persons appointed for that purpose by any board of health of a town near to or bordering on either of the neighboring States, if suspected of bringing from infected places of other States any infection dangerous to the public health; and if need be, they may be restrained from traveling until licensed thereto by the board of health of the town to which they may come. A traveler from such infected place who shall without such license travel within this State (except to return whence he came, by the most direct way) after caution shall forfeit a sum not exceeding $100.

§ 19. Two justices of the peace may, if need be, issue a warrant directed to the sheriff, etc., or any constable requiring them to remove any infected person, or to impress and take up convenient houses, lodging, nurses, attendants and other necessaries, for the accommodation and relief of the sick.

§ 20. Any baggage, clothing or goods suspected of being infected may be secured under justice's warrant, and persons may be prevented from removing or coming near the same until due inquiry is made into the circumstances.

§ 21. Under the same warrant officers may be required, under direction of the board, to impress and take up convenient houses or stores for the safe-keeping of such articles, and the board may direct their detention, until in its opinion they are freed from infection.

§ 22. Officers in execution of the warrant may break open any house, shop or other place mentioned in warrant where such articles are. And whoever neglects or refuses to assist them shall forfeit a sum not exceeding $10.

§§ 23, 24. The board may determine the prices and rates to be charged for securing, transporting and purifying such articles, which charges shall be paid by the owners. The parties interested shall, however, be entitled to a just compensation therefor, to be paid by the town so impressing, etc.

§ 25. If any prisoner or inmate of work-house has a disease in the opinion of the physician of the board dangerous to health of other prisoners or of the town, the board shall direct the removal of such person to a hospital or other place of safety, there to be provided for and kept in security until recovery, to be then returned to prison or other place of confinement.

Vaccination.

§ 27. Parents and guardians shall cause their children and wards to be vaccinated before they are two years of age, and re-vaccinated whenever the selectmen or mayor and aldermen shall after five years require it.

§ 28. These authorities shall enforce the vaccination of all the inhabitants, and, whenever they think the public health requires it, the re-vaccination of all the inhabitants who do not satisfy them that they have been successfully vaccinated or re-vaccinated within five years. All persons over twenty-one years of age, not under guardianship, who neglect to comply with such requirement, shall forfeit $5.

§ 29. Towns shall furnish means of vaccination to such as are unable to pay for the same.

§ 30. Incorporated manufacturing companies, superintendents of alms-houses, and other charitable institutions, etc., keepers of prisons, etc., or officers of all other institutions supported or aided by the State, shall at the expense of their respective establishments cause all inmates thereof to be vaccinated immediately upon their entrance thereto, unless they produce sufficient satisfactory evidence of previous sucessful vaccination within five years.

Quarantine.

§§ 34, 35, 36. The board of health in each seaport town may from time to time establish the quarantine to be performed by vessels arising within its harbor, and may make such regulations as it deems necessary, extending to all persons, goods and effects arriving in such vessels, and to all persons visiting or going aboard such vessels, and whoever violates such regulations, after notice, shall forfeit a sum not less than $5 nor more than $500.

§§ 37, 38. The board in each seaport town may cause any vessel arriving in such port, when such vessel or its cargo is, in its opinion, foul or infected, to be removed to the quarantine ground and thoroughly purified at the expense of the owners, consignees or persons in possession, and may cause all persons arriving at or going on board to be removed to a hospital under care of the board. If any master, seaman or passenger belonging to any vessel on board of which any infection is or has been, or is suspected to have been, or which has come from any port where any infectious distemper prevails, refuses to answer on oath to inquiries made of him relating to such infection or distemper by the board of health of the town to which such vessel may come, such master, seaman or passenger shall forfeit a sum not exceeding $200, and if not able to pay, shall suffer six months' imprisonment.

§ 39. All expenses incurred on account of any person, vessel or goods under quarantine regulations shall be paid by such person or the owner of such vessel or goods respectively.

Hospitals and Dangerous Diseases.

§ 40. Any town may establish one or more hospitals for diseases dangerous to the public health.

§§ 41, 42. Such hospitals shall be subject to the regulations of the board, or of a committee of the town, and not within one hundred rods of an inhabited dwelling-house in an adjoining town, without the consent of such town.

§ 43. The physician, nurses, attendants, the sick therein, and all persons approaching or coming within the limits of the same, and all furniture and other articles used there shall be subject to the regulations of the board of health, or the committee appointed for that purpose.

§ 44. Board may cause any person suffering from a disease dangerous to the public health, to be removed to any such hospital, whether temporary or permanent, and if such person cannot be removed without danger, the house or place in which he remains shall be considered as a hospital, and subject to the regulations of the board of health, or the committee as aforesaid.

§ 45. The selectmen and board of health shall give public notice of infected places in the town to travelers, by displaying red flags at proper distances, and by all other means in their power.

§ 46. If any person, in any of the hospitals or places of reception, violates any of the lawful regulations, he shall for each offense forfeit not less than $10 nor more than $100.

§ 47. If a householder knowingly neglects or refuses to give notice to the authorities, as aforesaid, that a person within his family is taken sick of small-pox, or any other dangerous disease, he shall forfeit a sum of not less than $100.

§ 48. And a physician, neglecting to give notice of any patient of his suffering from small-pox, etc., shall forfeit for each offense a sum of not less than $50 nor more than $100.

§ 49. Expenses incurred by a *town*, in the removal of nuisances or preservation of the public health, and which are recoverable by law, may be sued for and recoverable in an action of contract.

§ 50. Fines and forfeitures, incurred under by-laws and regulations of a *town* relating to health, shall inure to the use of such town.

§ 51. Provisions of sections 16, 17, 44, 45 and 46 shall not apply to small-pox.

Offensive Trades.

§ 52. The board shall, from time to time, assign certain places for the exercising of any trade or employment which is a nuisance or dangerous to the public health, or hurtful to the inhabitants, and may prohibit the exercise of it elsewhere within the limits of the town.

§ 53. Supreme Court may, on complaint, revoke such assignment.

§ 55. Board empowered to serve orders, under section 52, of prohibition, etc., upon occupant or person in charge of premises. If party so served refuses or neglects for twenty-four hours after service to obey the same, board shall take all necessary measures to prevent the exercise of such trade, etc., and persons so refusing, etc., shall forfeit not less than $50 nor more than $100.

§§ 56, 57. Appeal allowed within three days, but such trade, etc., shall not be exercised during the pendency of the appeal.

§ 58. Provisions made as to costs.

CHAPTER 28.

Of Cemeteries and Burials.

§ 6. Boards of health may make all regulations which they deem necessary concerning burial grounds and interments within their respective limits; may prohibit the use of tombs by undertakers (as places of deposit for bodies committed to them for burial), for the purpose of speculation, and may establish penalties not exceeding $100, for any breach of such regulations.

§ 7. Legal notice of such regulations shall be publicly given.

§ 8. Before a tomb, burial ground or cemetery is closed by order of the board of health, for a longer time than one month, all persons interested shall have an opportunity to be heard, and personal notice of the time and place of hearing shall be given as therein described.

§ 9. Appeal allowed therefrom to Superior Court at any time within six months from the date of the order. But order of the board shall remain in force until decision had on the appeal.

§ 10. If order is sustained, the appellant shall be liable for double costs in favor of the board of health for the use of the town or city.

A. D. 1871 — CHAPTER 167. (Supplement to General Statutes.)

An Act concerning Slaughter-houses and Noxious and Offensive Trades.

§ 2. Whenever in any city or town, containing more than four thousand inhabitants, the State Board of Health order any person or persons or corporation carrying on the business of slaughtering cattle, sheep or other animals, or for melting or rendering establishments, or for other noxious or offensive trades in any building or premises to desist and cease from carrying on such trades, etc., and any such persons continue, notwithstanding such order, to carry on such trades or occupations in such forbidden building or premises, they shall forfeit not exceeding $200 for every month they continue so to occupy the premises for that purpose after being ordered to desist, and in like proportion for a shorter time; *provided* that, on application to the Board to exercise such powers, a time and place for hearing the parties be assigned by said Board, and due notice given thereof, and the aforesaid order only be issued after such notice and hearing.

§ 3. The Supreme Judicial Court, or any one of the justices thereof, in term time or vacation, shall have power to enforce the orders of the State Board of Health issued under section 2 of this act.

The State Board of Health, referred to as above, is authorized to be established under act (A. D. 1869), chapter 420, and is as follows:

SECTION 1. The Governor, with the advice and consent of the Council, shall appoint seven persons, who shall constitute the Board of Health and Vital Statistics. The persons so appointed to hold their offices for seven years; *provided* that the terms of office of the seven first shall be so arranged that the term of one shall expire each year, and all vacancies, in whatever way occurring, be filled by the Governor with the advice, etc., as aforesaid.

§ 2. The Board shall take cognizance of the interests of health and life among the citizens. They shall in the month of January in every year make report to the Legislature of their doings, investigations and discoveries during the preceding year, with such suggestions as to legislative action as they may deem necessary.

§ 3. No member, except the Secretary, shall receive any compensation, but the actual personal expenses of any member while engaged in the duties of the Board shall be paid.

§ 4. The Board shall examine and report upon the effect of the use of intoxicating liquors upon the industry, etc., health and lives of the citizens. Also what additional legislation, if any, is necessary.

§ 5. The Board shall elect a Secretary, who, when elected, shall be a member of the Board.

ACT 1870, chapter 365. The State Board of Health may order any person at any time, engaged in the business of slaughtering, within six miles of Faneuil Hall Market, Boston, and not upon any island in the harbor, to slaughter his cattle, sheep, or other animals, upon premises of the corporation of the "Butchers' Slaughtering and Melting Association," located in the town of Brighton, *provided* that thirty days' notice shall be given to such person by the Board, and if after such order said person shall continue to conduct his business in a way, in the judgment of the Board, injurious to the public health, Supreme Court or any justice thereof, sitting in equity shall have power to enforce any such order by injunction. Any person aggrieved by order of the Board shall have a right to appeal in the same manner as such right is given by chapter 26 of the General Statutes, to a person aggrieved by an order of a town board of health, prohibiting the carrying on of offensive trades.

CHAPTER 167. *An Act concerning Slaughter-houses, and Noxious and Offensive Trades.* See § 2.

Cases Cited.

1. The Legislature can constitutionally make the action of its delegate, in revoking a license, final, and not subject to be reviewed by a jury. Although the Mass. Stat. 1871, chap. 167, does not expressly give to a person aggrieved by an order of the State Board of Health, under section 2, adjudging his business to be a nuisance, a right of appeal therefrom to a jury, yet he has such right. *Sawyer* v. *State Board of Health*, 125 Mass. 182.

2. On such appeal from an order, prohibiting the business of "slaughtering and rendering," on certain premises, the jury may permit the business of "slaughtering" under restrictions, that the cellar be concreted in concave form, that no swine be kept within, and that all offensive matter be removed before a certain hour in water-tight boxes, and that the premises be kept in a condition of cleanliness acceptable to the local board of health; Mass. Gen. Stat., chap. 26, § 5, requiring the board to make such regulations as it deems necessary for the public health. Ib.

MICHIGAN.

When the board of health of a township necessarily incurs expenses in providing for the protection of its inhabitants against a sickness dangerous to the public health, by the removal of persons infected, to a building provided for them, such expenses are a charge against the county, which it is the duty of the board of supervisors to allow. *People* v. *Supervisors of Macomb*, 3 Mich. 475.

Boards of health to suppress nuisances, with full powers of enforcing ordinances for registration and mortuary statistics, provided that the same are not inconsistent with the rules and regulations of the State Board of Health and the laws of the State.

MINNESOTA.

By chapter 10, General Statutes, section 51 *et seq.*, the town supervisors constituted under this act (the Township Organization Act) shall constitute a board of health, and shall have and exercise all the powers necessary for the preservation of the public health.

Such board may examine into all nuisances, sources of filth and causes of sickness, and make such regulations as they may think necessary, and every person violating such rules, when duly published, shall be deemed guilty of a misdemeanor, and punished by a fine not exceeding $100, or by imprisonment in the county jail not exceeding three months.

Board shall order the owner or occupant of any private property on which any nuisance, source of filth or cause of sickness is found, to remove same within twenty-four hours, and if he neglects he shall forfeit not exceeding $50, to be recovered for the use of the town, and the board of health may then remove the same at his expense, or at that of such other person as has permitted the same.

If board are refused admission to any building or vessel in their town for the purpose of examining and destroying, removing or preventing, any nuisance, source of filth or cause of sickness, a justice of the peace may, upon application, issue a warrant directing constables to accompany two or more members of the board, and, under their direction, to remove, destroy, etc. Infected person may be removed by direction of the board to a separate house with all proper appliances, at his charge or that of his guardians, if able, otherwise at the public expense.

Board shall provide hospital for sick and infected in case of epidemic. and may cause any sick or infected person to be removed there, if his health will permit it, otherwise the place where he remains shall be considered a hospital under regulations of the board.

By chapter 101, section 4, whoever inoculates himself or any other person, or suffers himself to be inoculated with the small-pox, with intent to cause the prevalence or spread of this infection, shall be imprisoned in the county jail not more than one year or by fine not exceeding $500.

MISSISSIPPI.

By chapter 32 (A. D. 1880), section 12, a chief health officer shall be appointed in each county in the State by the Governor, on the nomination of the State Board of Health, and who shall be a physician of sanitary attainments, whose term of office shall be for two years, subject to removal by the Governor, on the recommendation of the State Board of Health.

And by section 11, all incorporated towns shall have power to pass laws, and to create boards of health, to suppress nuisances, with full powers of enforcing ordinances for registration and mortuary statistics, *provided* that the same are not inconsistent with the rules and regulations of the State Board of Health and the laws of the State.

MISSOURI.

By article II of the Revised Statutes, chapter 89, sections 4586–9, 4590–3 (A. D. 1879), a health department shall be erected in all cities of the first class, which shall be managed, directed and controlled as provided by this article, and by ordinances of such city, by a board of health and by a health commissioner, who shall be appointed by the mayor and council. His tenure of office shall be four years, removable by the mayor.

There shall also be created a board of health, which shall consist of the mayor, the presiding officer of the council, a commissioner of police, and two regular practicing physicians. The health commissioner shall be an officer of the same board. Board shall meet twice in each week during the year. Three members shall constitute a quorum, and it shall have power to adopt rules and regulations for its government.

Health commissioner shall have general supervision over the public health, and he is empowered to make such rules and regulations, with the approval of the board, as will tend to preserve the public health, to enter into, or require any employee or police officer to enter upon and examine, in the day-time, all buildings, lots, and places of every description within the city, and report the condition thereof so far as the public health is concerned ; to abate nuisances — but all condemnations must first be approved by the board of health, whose action shall be final. He shall obey all lawful orders of the board of health and shall annually report to the mayor.

Police officers are required, through their chief, to report to the health commissioner any nuisance or accumulated filth existing in the city.

The superintendents of the city hospital, the female hospital, the insane asylum, and of quarantine, when necessary, shall be under the general supervision of the health commissioner, and shall be appointed by the mayor, with the approval of the board of health.

Health commissioner shall have power to notify to owners of the existence of any nuisance or filth on their premises, after officially so declared of record by the board of health, to abate or remove the same. A fine not exceeding $500 may be imposed for disobedience to such notification, and the nuisance shall be abated and special tax bills rendered against the property, but the owners shall first have an opportunity to be heard before the health commissioner and the board of health, if they so desire.

Whenever the mayor shall have knowledge that any malignant, infectious or contagious disease or epidemic is prevalent in the city, or will probably become so, he may make proclamation to that effect, and after that the health commissioner, with the approval of the board of health, may take all steps necessary to suppress or mitigate such disease, and may employ officers, agents, nurses, servants, establish temporary hospitals, provide all things necessary, with the advice and counsel of the board of health, provided that the amount expended shall not exceed the appropriation for the health department.

NEW JERSEY.

By an act of the 104th Legislature of the State of New Jersey and thirty-sixth under the new Constitution, chapter 187, session of 1880, it is enacted that in any county of the State where there is by law a board of health and vital statistics, such shall be the only legally constituted body in said county, or in any municipality or town in said county, having power to make ordinances in relation to the public health or vital statistics.

County board may appoint health inspector, a graduated physician or chemist, who shall receive not over $1,500 a year as salary, and who shall be subject to the said board. Board shall also appoint a counselor at law at a salary of $1,000 a year, his office being tenable for two years, who shall bring and defend all suits and be the legal adviser of said board. Said board to have power to pass, alter, amend or repeal ordinances in relation to public health and vital statistics in said county, to provide against

1. Adulteration of foods and drinks, or any kind of meat or vegetable not fit for human food, sold, exposed for sale, or brought into county for sale.

2. To declare what shall be nuisances, in lots, streets, docks, wharves, vessels, piers, and all public or private places.

3. To prevent the spread of dangerous, epidemic, or contagious diseases, and to declare when same has become epidemic.

4. To regulate the keeping of animals and the slaughter of the same.

5. To regulate, control or prohibit noxious or offensive trades, attended by noisome and injurious odors and otherwise injurious to property.

6. To regulate, license and control all night scavengers and their occupations.

7. To regulate, control and prohibit the accumulating of manure, compost, and all decaying or vegetable substances.

8. To prohibit and remove all or any nuisance, or offensive matter in any public highway, etc., or other place, public or private, at the expense of owner.

11. To regulate the keeping of a registry of the vital statistics of said county.

13. To secure sanitary condition of tenement-houses, prisons and all public buildings.

14. To regulate the cleaning of sewers, and the dumping of garbage, and the filling of sunken lots or marsh land.

15. To provide for filling in of sunken lots, the repositaries of stagnant water in the built-up portions of city.

Board of health may prescribe a penalty for violation of their ordinances, when the same has been duly published, not to exceed $100 and not less than $10. District Courts, justices of the peace, and recorders may issue process on oath, to hear and determine such cases. On failure to pay the judgment against him, together with costs, unless an appeal is granted, defendant to be committed to county jail for not exceeding ninety days, and if twice convicted in the space of six months, then in addition to the penalty, defendant to be imprisoned in county jail or work-house, with or without hard labor, for one day for each dollar of the penalty; all police officers, constables and health inspectors may arrest without warrant any person in their presence violating any of the ordinances of said board.

By chapter 220 of same act and session, it is enacted that the State Board of Health shall have power to determine whether pleuro-pneumonia, rinderpest, or any other contagious or infectious disease exist among animals, and that the sum of $500 be appropriated to defray necessary expenses of such examinations.

Owners of animals required to notify State Board of the existence of such disease; whereupon said animals shall be quarantined by said Board and remedial measures adopted.

Board, in its discretion, may order said animals to be slaughtered and their remains buried not less than four feet under ground, and the places where they were kept to be cleansed and disinfected.

Two-thirds of the appraised value of such animals shall, in such cases, be paid to the owner.

Any person failing to notify said Board of the existence of such diseases shall be deemed guilty of a misdemeanor and be liable to be fined not more than $200, or be imprisoned not exceeding one year; both at discretion of the court; and further, any person knowingly buying, selling, or causing to be bought or sold, any animal affected as aforesaid, shall be deemed guilty of a misdemeanor, and be liable to a fine not exceeding $200, or imprisonment not exceeding one year; both at discretion of the court.

The following cases have been decided under the statutes of the State of New Jersey, defining the nature, character and powers of a board of health—the rights of citizens, notwithstanding—what constitutes a nuisance, and the mode to be adopted for its abatement, after being duly adjudged a nuisance, or by the contravention of some ordinance, defining and prescribing the mode in which any pursuit or calling may be used without incurring its condemnation as a nuisance, and inimical to public health.

The functions of a board of health are of an executive and advisory, but not of a legislative or judicial character. A resolution passed by said board declairing plaintiff's tannery to be a nuisance, is void. *State-Marshall* v. *Trenton*, 7 Vr. 283.

Nor can a city recover the expense of filling up low lands of a defendant; by the adoption of such a resolution by a board of health, and subsequent notification to the owner (the defendant) to do so. *Hutton* v. *Camden* (Nov., 1876), Court of Errors.

The board of health of the city of Newark, in the legitimate exercise of its powers, cannot absolutely prohibit the carrying on of a lawful business, not necessarily a nuisance, but which may be conducted without injury or danger to the public health, and without public inconvenience. They will be confined, in their interference with the lawful business of any individual, to such interruptions as may be reasonably necessary to enable them to abate any nuisance he may create in conducting it. *Weil* v. *Ruord*, 9 C. E. Gr. 169.

A tannery is not *per se* a nuisance, and cannot be abated by street commissioner or board of health, until adjudged to be so employed as to be inimical to public health or safety, or until the owners contravene some ordinance prescribing the mode in which it or any other calling shall be used, and thereby make them nuisances. *State-Marshall* v. *Cadwalader*, 7 Vr. 283.

STATE BOARD OF HEALTH OF NEW YORK.

CHAPTER 324 (April 10, 1850), entitled *An Act for the Preservation of the Public Health.*

SECTION 1. Local boards of health required to be appointed in cities and incorporated villages once in every year, where as yet no board of health existed, consisting of not less than two nor more than seven persons, and a competent physician to be the health officer.

§ 2. The supervisor and justices of the peace, or the major part of them, of each town in the State, shall be a board of health for each year, whenever, in the opinion of the majority of them, the public good requires it; and they appoint a physician to be officer of health.

§ 3. The several boards of health now organized in any city or village, except in the metropolitan district, and the several boards of health constituted under this act, shall elect a president and secretary of such board, and it shall be their duty (1) to meet in their respective cities, villages and towns and fix and determine the period of quarantine to which vessels, vehicles or persons arriving in such city, etc., shall be subject, with power subsequently to reduce the period if they deem it right. (2) To prescribe the duties of the officer of health and fix the amount of his compensasion. (3) To make orders and regulations concerning the place and mode of quarantine, the examination and purification of vessels and other craft not under quarantine; the treatment of vessels, articles or persons thereof; regulation of intercourse with infected places; the apprehension, separation and treatment of emigrants, etc., who shall have been exposed to any contagious or infectious disease; suppression and removal of nuisances, and all such other orders and regulations as they may deem necessary. (4) To regulate and prohibit and prevent all intercourse with houses and places and their occupants, in which there shall be any one suffering from infectious or contagious disease. (5) To procure suitable places for the reception of persons sick with the Asiatic or malignant cholera, or any other malignant infectious or contagious disease, and to procure for them, if necessary, proper medical treatment. (6) To publish, from time to time, all orders and regulations of general obligation, and to make, without publication, any orders in special and individual cases, concerning the suppression and removal of nuisances and other matters detrimental to the public health, and to serve copies thereof upon occupants of premises designated as nuisances. (7) To issue warrants to any constable within their jurisdiction to apprehend and remove such persons as cannot otherwise be subjected to the regulations; and to issue warrants to the sheriffs of their respective counties to aid; all of which officers shall possess power to execute the same. And, as added by section 1, chapter 559, Laws of 1870, to impose penalties for the violation of, or non-compliance with the orders, etc., and to maintain actions for their recovery not exceeding $100, in any one case, or to restrain by injunction or otherwise enforce, as may be.

§ 4. (As amended by chap. 790, Laws of 1867.) Every person willfully violating or refusing to obey any such order or regulation shall be deemed guilty of a misdemeanor, and on conviction shall be subject to fine or imprisonment, or both, such fine not to exceed $1,000, nor such imprisonment two years. And in case of of non-compliance with any order, etc., so served, as provided in subdivision

6 of section 3 of said act as amended, the board may lawfully enter upon any premises and remove the nuisance or other matter mentioned in the order, and any other nuisance, etc., found there existing; expense shall be a charge upon the occupant or occupants and may be sued for in the name of the board; and the judgment obtained shall be, if unsatisfied, a lien upon the premises, having preference over all other liens or incumbrances whatsoever, and the said board may cause the premises to be sold for satisfaction of such lien and the expenses of the sale at public auction of the premises, all proper notices of such sale having been duly given and published. (Then follows the definition of the rights and security of the purchaser of the said lien or judgment.)

§ 5. (As amended by chap. 761, Laws of 1868.) All expenses incurred by the several boards shall be a charge only on their respective cities, villages and towns.

§ 6. Persons supported at county poor-house, liable to be infected by any pestilence or infectious disease existing in such poor-house or in its vicinity, may, upon the physician of such county poor-house certifying that the health of such inmates is thereby endangered, be removed by the superintendent to such suitable place as may be designated by the board of health of the city, etc., within which such poor-house is situate, and shall be there maintained at the expense of the county and provided with all necessary medical attendance until returned or otherwise discharged.

§ 8. The city and county of New York are exempted from the provisions of this act. See *Rogers* v. *Barker*, 31 Barb. 447, limiting the power for the suppression of nuisances to the regulation of nuisances *per se*. Cannot abate a mill-dam. *Ib.* But see chap. 559, Laws of 1870, subd. 9 of section 3 of this act. As to right of trial by jury, see *Board of Health* v. *Heister*, 37 N. Y. 661.

"*An Act relative to the Public Health of the city of New York*" (1850, *chap.* 275).

SECTION 1. The legislative powers hitherto vested in the board of health, otherwise than as herein modified or altered, shall be vested in the mayor and common council of the city of New York.

§ 2. Mayor and common council shall be known as the board of health, of which ten members shall constitute a quorum.

§ 4. The president of the board of aldermen, the president of the board of assistant aldermen, health officer, the resident physician, the health commissioner and city inspector shall be the commissioners of health.

§ 5. The mayor and the commissioners shall render their advice to the board of health, and to the city inspector, in regard to all sanitary matters.

§§ 6, 7. Health officer though required to perform all the duties specified, and such other duties as the board of health or the mayor and commissioners shall lawfully require, may appoint a deputy, for whose conduct he shall be responsible.

§§ 8, 9. The resident physician shall visit all sick persons reported to the board, or to the mayor and commissioner, and shall perform such other professional duties as the board of health shall enjoin, and the health commissioner, under direction of the board of health, shall assist such physician.

§ 15. Board of health may appoint as many visiting, hospital and consulting physicians as they may deem necessary.

§ 16. The mayor, with the advice and consent of the board of aldermen, may appoint an inspector of vessels, who shall, under the direction of the mayor and the commissioners of health, or of the board of health, perform the duties required of him and receive the fees, as prescribed by the act.

§ 17. Such inspector, after having performed any service required of him, shall make an immediate report to the board of health, or to the mayor and the commissioners.

An Act to establish a State Board of Health.

PASSED May 18, 1880; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Within twenty days after the passage of this act, the Governor, by and with the advice and consent of the Senate, shall appoint three State Commissioners of Health, two to be graduates of legally constituted medical colleges, of not less than seven years' practice in their profession. Said Commissioners, together with the Attorney-General, the Superintendent of the State Survey, and the Health Officer of the port of New York, who shall be *ex-officio* members of the State Board of Health; and three other persons to be appointed by the Governor, one of whom shall be a commissioner of health of the board of health of the city of New York, and the others shall be members or commissioners of health of regularly constituted and organized boards of health of cities of the State, shall constitute the Board of Health of the State of New York. Nothing in chapter 335 of the Laws of 1873 of the State of New York, or in laws amending the same, or in laws constituting boards of health in the various cities in the State, shall be construed to prevent the appointment of said commissioners of boards of health of cities; also members of Board of Health of State of New York, and no appointment to, or acceptance of an office thereof under this law shall be held to vacate any office previously held in any board of health of any city in this State.

§ 2. Said three State Commissioners shall hold office for three years, and whenever a vacancy occurs, the place shall be filled as in other cases provided by law, and the other Commissioners shall, from time to time, be designated by the Governor, as occasion may require, or as their places may be vacated in the Board by the expiration of their several terms of office.

§ 3. Board shall meet, at least, once in every three months, first meeting being held in city of Albany within two weeks after the appointment of members of first Board, and each annual meeting within two weeks after the 1st of May, each year after the first. They shall elect annually a person of skill and experience in public health duties, and sanitary science, to be their Secretary and Executive officer, having all the powers of a member of the Board, with the exception of voting on matters relating to his own office and duties. He shall hold office for three years, removable for cause, after full hearing, by a majority of the Board.

§ 4. Board may appoint committees, to whom it shall delegate authority and power.

§ 5. Secretary shall receive an annual salary of $3,000 and necessary expenses.

§ 6. Board shall take cognizance of the interests of health and life, and shall make all proper investigations in respect to the public health. And all health officers and boards of health in the State shall communicate to the State all sanitary information, whether in reports or otherwise, as may be useful.

§ 7. State Board of Health shall regulate the transfer permits issued by local boards of health for the transportation of dead bodies which are to be buried beyond the limits of the counties where the death occurs. Coupons are required to be attached to such permits to be preserved by the person to whom such dead bodies are delivered for transportation.

§ 8. Governor may require the Board to examine into nuisances, and upon their report may order their abatement. Any violation of such order shall be held and punished as a misdemeanor.

§§ 9, 10. Local board may select any one of its officers as its representative on the examination of any nuisance. Persons may be engaged to render sanitary services, etc., and persons having charge of public structures shall permit and facilitate such examination. No more than $5,000 in any one year shall be expended for such special sanitary service.

§ 11. Annual report on 1st December in each year shall be made to the Governor of the State upon the vital statistics and sanitary condition of the State. Such report shall contain a detailed statement of the expenditure, but the total expenditure for any one year shall not exceed $15,000.

§ 13. Act to take effect immediately.

Cases Cited.

1. *Powers of board of health.*— Powers conferred on a board of health for such an important object as the preservation of the public health, should receive a liberal construction for the advancement of the ends for which they were bestowed. 1869, *Gregory* v. *New York*, 40 N. Y. 273.

2. The board of health of the city of New York have power to act upon a particular thing dangerous to public health, and cause it to be abated; but they have not power to assume, in advance, that

all the sinks and privies in that city are or will become nuisances or dangerous to the public health, and bind the city by a contract for the removal of their contents. *Ib.*

Although the power to "regulate" includes the power to prohibit a slaughter-house in a city, yet a power to "regulate and license" a business or trade confers no powers to tax it. The rules and regulations which a corporation may make in respect to business or trade, under its police power, are such only as have relation to the public health, morals, and order of the community. *Mühelbrink* v. *Long Branch Corners*, New Jersey Supreme Court, June, 1880.

Thos. J. Reed, Plaintiff in Error, v. *The People, Defendants in Error.*

It is only when a regulation of the board has been made and published that a person can be convicted, under fourth section of the act, of a misdemeanor, for its violation. An order of the board of health, made *ex parte* and adjudging certain premises to be a common nuisance, is not such a regulation as is contemplated by fourth section, and a failure to comply with such order does not subject the person offending to punishment for a misdemeanor, under section 4. These regulations are to be in the nature of laws prescribed and published in contradistinction to a judgment, sentence, decree or order, and contemplates the exercise of a power in its character, legislative rather than judicial. Parker's Crim. Rep., vol. 1, p. 481.

The People, ex rel. Savage, v. *The Board of Health of the City of New York.*

The board of health has no power to adopt a resolution declaring any trade or occupation carried on within the limits of the city, to be a nuisance without notice to the party conducting the same, and giving him an opportunity to be heard in his defense. 33 Barb. 344.

John Underwood, Appellant, v. *John Green, Respondent.*

To justify a conversion of plaintiff's property, under a city ordinance directing "all dead animals" * * * "to be forthwith removed and disposed of by removal beyond the limits of the city, or otherwise, so as most effectually to secure the public health," it must be shown that the dead animals removed were, or would become, in some way dangerous or deleterious to public health. 42 N. Y. Rep. 140.

On May 12, 1884, an act was passed by the State Legislature authorizing the board of health of the city of New York to designate and set apart on the water front on the east side of New York, one or more places of sufficient size for the temporary deposit of stable manure, north of Forty-second street. Act to take effect immediately. 107*th Session*, *chap.* 278.

Also, on May 31, 1884, an act was passed empowering the Governor in the exercise of his judgment, for the more speedy and economical suppression, or for preventing the spread of any infectious or contagious disease of domestic animals, to cause to be slaughtered and to be disposed of afterward any animal which, by exposure to infection or contagion, may be considered after examination to be liable to contract or to communicate the disease sought to be suppressed. Provisions for ascertaining and awarding the value of animals slaughtered are added. 107*th Session, chap*. 418.

PENNSYLVANIA.

1. To obtain a valid lien for the removal of a nuisance the Board of Health must strictly pursue the provisions of the act of 1818; there must be a complaint of two householders, and a warrant from a justice. *Baugh* v. *Sheriff*, 7 Phila. 82.

2. The Board have final jurisdiction in determining the fact of nuisance, which they order to be removed. *Kennedy* v. *Board of Health*, 2 Penn. St. 366.

3. The Board of Health have power to fence a lot, if necessary for the abatement of a nuisance. *Wistar* v. *Addicks*, 9 Phila. 145.

4. The power of the Board of Health does not extend to the removal of tenants, and the closing up of their houses, unless justified by the existence of pestilential disease. *Eddy* v. *Board of Health*, 30 Leg. Int. 392; S. C., 5 Leg. Gaz. 381.

5. A resolution declaring that a nuisance exists on a lot, north and south of Master, between Broad and Thirteenth streets, will not sustain a claim against a lot at the south-west corner of Thirteenth and Master streets. *Philadelphia* v. *Houseman*, 2 Phila. 369.

6. What will justify the hauling of a vessel to the wharf before being visited by the port physician. *Board of Health* v. *Micreken*, Purd. Dig., 10th ed., 1326.

7. The Board of Health may recover the expenses of healing sick passengers, though ordered to the hospital, before the oath is made. *Board of Health* v. *Cope*, Purd. Dig., 10th ed., 1327.

8. The action of a Board of Health, fixing the compensation of a physician, whom they were empowered to employ, is conclusive. *Williamsport* v. *Richter* 2 W. N. C. 682; S. C., 33 Leg. Int. 321.

RHODE ISLAND.

By the General Statutes of this State, title VII, chapter 35, sections 11 and 12, the several town councils and boards of aldermen shall be *ex officio* boards of health in their respective towns, and may make such rules and regulations, not repugnant to law, as they shall judge proper for the preservation of the health of the inhabitants thereof, the prevention and abatement of nuisances, the promotion of cleanliness, the removal of the causes and the prevention of the introduction and spread of any contagious or infectious disease therein, either by removing the inhabitants of their respective towns, or forbidding or regulating ingress or egress of persons to and from the same, or any parts thereof, or otherwise; and, in case of seaport towns, by making rules and regulations respecting quarantine.

The penalties for breach of such rules and regulations shall not exceed $300 fine or six months' imprisonment for any one offense, unless otherwise provided by law, said fine to inure, one-half to the complainant and the other half to use of the town.

By title XIV, chapter 74, a fine of $400 is imposed upon every commander of any vessel which shall have any person on board sick of small-pox or any contagious or infectious distemper, or which has had any such sick person during the passage, or which shall come from any infected port, who shall anchor within one mile from any public ferry, pier or landing place, or permit any person on board to be landed, or any one to come on board without license first had and obtained from town council of such town where vessel shall arrive.

Such commander shall keep signals in the shrouds. Any person coming ashore from such vessel, without license, may be sent back or confined on shore, and shall be fined $40 and all expenses.

Town council shall send a physician or other suitable person to examine and make report of true state of such vessel, at the charge of the master or owner, and put some person in charge and effectually prevent any communication therewith, at the charge of the master or owner thereof.

Town council shall confine on board, or send to some hospital, all persons suffering or liable to suffer, until perfectly recovered and cleansed, or have passed a suitable quarantine; and also all persons who have gone on board without license, at the charge of such persons respectively.

Suitable persons shall be appointed to see that all goods, etc., in such vessel are properly cleansed before they are brought into any house, shop or warehouse; charges to be borne by the respective owners, and be a lien on such goods, etc.

All goods clandestinely landed shall be forfeited, one-third to use of the State, and two-thirds to use of the person suing for same.

Any person coming by land from any infected place into this State, within ten days from the time of leaving such infected place, shall be fined not exceeding $100, nor less than $10.

Every householder or person shall inform the town council of his town of any case of small-pox, etc., suspected or otherwise, in the place where he dwells, or forfeit $20 to use of the town.

When so notified, town council shall set a proper guard, and shall remove such person to hospital, or otherwise, until recovered and cleansed, or have performed quarantine.

Any person visiting infected houses without license shall forfeit for every such offense $20, and such person shall be confined for the purpose of purification, or have performed quarantine, at the discretion of town council.

Flag to be placed near entrance of infected house.

Every person convicted of willfully spreading small-pox or other infectious disorder shall be imprisoned for one year, and if any person shall die of such complaint, the person so convicted of willfully spreading the same shall be fined not exceeding $5,000 and be imprisoned not more than five years, nor less than one year.

Every physician, surgeon, or other person employed by any town council, as aforesaid, and neglecting his duty, shall for every offense be fined $40.

Town council may cause all persons living in an infected district to be removed, after due notice, at their own expense, unless they are unable to remove themselves.

Annual gratuitous vaccination shall be provided, and public vaccinators appointed.

The above act is amended by act of 1873, chapter 289, so far as relates to small-pox on land, but the enactments are substantially the same.

By General Statute, title XIV, chapter 75, "Of Quarantine," each seaport town may appoint a health officer, who shall visit all vessels subject to quarantine, to be paid by owners, agents or commanders of such vessels. Every commander of a vessel refusing to obey the rules and regulations respecting anchoring on quarantine ground shall be fined not exceeding $500, and not less than $20, and any person leaving any ship or vessel under order of quarantine, without permission of the health officer or town council, shall forfeit not exceeding $20, and may be returned on board.

Every person entering into city of Providence, village of Pawtuxet, or the compact part of the town of Cranston from any vessel bound to that port at any time while the quarantine regulations are in force, until such vessel has been visited and examined by health officer and permission granted, shall forfeit not exceeding $20, and may be returned to such vessel in case she is under quarantine.

TENNESSEE.

Corporate bodies are subject, as are natural persons, to general laws enacted to protect and promote the quiet, comfort, health and safety of the people, unless exempted by reason of express stipulation in their charters, or by reason of plain implication, from the nature of the privileges or franchises granted by their charter.

A corporation has the power by general ordinances to prevent the introduction of threatened disease or pestilence into the corporate limits, as small-pox and the like; but it cannot exclude particular persons. *Manchester* v. *Armstrong*, Nashville, 1874. To the powers expressly delegated are to be added those incidental powers necessary and proper to carry out the express powers. 2 Swan, 364; 9 Heis. 578.

The common law of England, so far as it is not inconsistent with the form of government and the nature of the institutions, and not changed by statute, is in force in Tennessee. Mar. and Yerg. 226;

2 Yerg. 35, 484; 2 Hum. 267, 493; 10 Yerg. 434; 9 id. 436, 310; 7 id. 127; 6 id. 334.

By the North Carolina Statutes of 1778, chapter 5, section 2; 1715, chapter 31, section 7, the General Statutes of England, enacted prior to 1607, and those relating to American colonies, were adopted in North Carolina, and continued in force in Tennessee, by the Session Act of 1789, chapter 3, and by the Constitutions of 1796 and 1834. 3 Yerg. 320; 1 id. 1, 291; 1 Over 144, 153; 2 Head, 320; 1 Hum. 77; 6 id. 29; 4 Hay. 271; 7 Yerg. 529; 9 id. 442; 2 Hum. 491; Meigs, 476; 3 Hum. 278; until repealed by the Code, 41, in the year 1858.

WISCONSIN.

Board of Health. 1. *Expense of Nursing, etc.*

The statute in respect to boards of health empowers them to remove a person sick with small-pox, or other infectious disease, to a separate building, and to provide nurses and necessaries for the person so removed; or if such patient cannot safely be removed, to make like provisions for him where he is (§§ 9, 10, chap. 32, R. S. 1858); but it does not make the public primarily liable, in either case, for the expense of nursing and necessaries. *Kollock* v. *City of Sevens Point*, 37 W. 348.

It will thus be seen that boards of health, whether specially constituted as such, or the governing bodies of cities, towns or villages, if clothed with the properties and powers of a board of health themselves, are legislative bodies and not merely ministerial or even judicial tribunals. It is conseqeuntly their duty to deliberate in determining and framing their by-laws, and to give all proper publicity to their rules and regulations. Their powers appear to be ample if only efficiently enforced, but a lack of moral courage to put the law in motion, or a neglect of those preliminary notices which the law requires, will render nugatory the best conceived theories or neutralize in practice the operation of the most beneficial institutions.

DRAINAGE, SEWERAGE AND TOPOGRAPHY.

REPORT

OF THE COMMITTEE ON DRAINAGE, SEWERAGE AND TOPOGRAPHY.

The work of the committee on drainage, sewerage and topography during the year 1885 has comprised investigations and reports on some twenty-eight cases, besides a number of others where advice has been given to localities on minor questions which did not appear to call for special examination, the facts being clearly set forth in the applications themselves.

The investigations covered by the following reports relate to cases in all parts of the State, in the counties of Westchester, Rockland, Dutchess, Albany, Fulton, Montgomery, Schenectady, Oneida, St. Lawrence, Cortland, Onondaga, Broome, Chemung, Schuyler, Livingston, Ontario, Monroe, Orleans, Wyoming, Niagara and Chautauqua. The subjects considered may be classified under the heads of drainage, sewerage and water supply.

DRAINAGE.

The canals and public works relating thereto have, in certain places, caused saturated areas or swamp grounds, giving rise to malaria. This has been specially the case with regard to the prisms of the abandoned canals. The localities affected have appealed to the State Board of Health to examine the regions and determine, if possible, whether life and health were endangered by the condition of these public works, and if so, to advise a suitable remedy.

These investigations have involved, first, the determination of the existence of miasmatic disease to such a degree as to lead to the suspicion of some local cause or causes; second, the determination of these causes; third, the devising of an effectual remedy for removing the insanitary conditions when such existed.

If miasmatic disease was found and the conditions on which it depended seemed to be caused by works belonging to the State, the committee earnestly recommended that the State apply a remedy when one was easily available. There can be no question that at Elmira, Horseheads, Pine Valley, Havana and Rome, the swampy condition of the abandoned canal beds was endangering the health of the localities. Means were devised for the drainage of these old canals, and appropriation having been made by the Legislature upon these recommendations, the committee have given their advice and assistance to the Superintendent of Public Works in carrying out the drainage plans which have resulted in marked sanitary improvements.

The work at Rome, Havana and Horseheads has not yet been completed. At Rome the fall of the ditch is so slight down the center of the canal, that the Board advised that the bottom of the ditch should be covered with plank and the sides two feet up with cobble stones. The fall of the ditch being only about six-tenths of a foot to a mile, the maintenance of the flow in it will depend upon the grade being kept even and perfect, and upon reducing the friction to a minimum. It was considered that this could best be accomplished in the manner described in the report, but owing to unusually high water this season the Superintendent of Public Works considered it best to postpone the planking and paving of the work to the coming year. The drainage works at Pine Valley and Havana will probably be complete before spring. At Elmira the water in the prism of the old canal was being seriously polluted by leakage from the State Reformatory sewer, which was so situated that a part of it could not be covered with earth. The Board having recommended the construction of a new sewer, and the Legislature having made the necessary appropriations, a sewer has been constructed by the Superintendent of Public Works, under the advice of the committee, but subject to the conditions imposed by the city of Elmira as respects the *kind* of sewer to be built and the *route* to be followed.

By order of the city council the sewer was made of cement pipe to conform to the other sewers of the city, but every effort was made, by inspecting the kind of cement used, to have the pipe of the best quality.

Under the law the city must agree to accept and maintain the sewer as a part of the city system giving the Reformatory the perpetual right to dispose of its sewage through this channel.

Another class of drainage examinations and reports have been made in connection with swamps, caused by building railroad embankments. Railroad corporations have sometimes created serious miasmatic conditions by the construction of their embankments. Where localities have felt endangered from this cause, appeal has been made to the Board, and the committee have caused examinations and reports to be made. Where the corporations were clearly at fault and a remedy available, the changes advised by the Board have usually been made. Other causes have been investigated and practical remedies devised for miasmatic conditions, produced by mill-ponds and tidal swamps.

SEWAGE DISPOSAL.

The question of sewage disposal in many of the towns and public institutions of the State has become one of increasing difficulty. In the treatment of these subjects large sanitary information and experience, as well as technical engineering knowledge is required.

The *water* of the sewage after flowing through the sewers must eventually be returned to some one of the natural water-courses of the region. The interest of all those on the lower part of this watercourse require the maintaining of the stream in a practically unpolluted condition. The amount of contamination which may be permitted in any stream depends upon the purpose to which it is put, the physical condition of its channel, and the population along its banks.

It is clear that the water of thesewage must be turned into lakes or streams ; but before such discharge the sewage should be so treated that no sanitary evil can result to those living near or using the stream. The exact degree to which it is necessary to purify sewage in order to secure such a result differs with the circumstances of each case, and the method of sewage purification will in each case depend upon the degree of purity to be obtained and the local conditions about the outlet. In the case of Lockport, Mount Vernon, Middletown and Warsaw, the committee have found sewerage to be essential to the health of the towns, and that they must, therefore, advise it. While on the other hand it has been necessary to consider in the disposal of this sewage the health and interests of people living in other towns and counties on the streams which must receive the water of the sewage.

The wants, the interests and the rights of various communities have thus to be considered, and the plans for sewage disposal adjusted to secure the desired sanitary improvements without producing evil consequences. In the case of the Binghamton asylum the method of sewage disposal used by this State institution was justly causing alarm in the city of Binghamton, and on the recommendation of the Board, appropriation was made by the Legislature, and a plan devised by Mr. Horace Andrews, civil engineer, was approved, and has been executed with most satisfactory results.

WATER SUPPLY.

Since the formation of the Board its advice has been constantly sought as to the purity and wholesomeness of various water supplies used for potable purposes by cities and villages throughout the State. After an experience of some four years with a large variety of cases, it was concluded that the laws of the State were not sufficient to secure the sanitary protection of water supplies. The character of the water supplies of different places varies so much, and the dangers of pollution are so different in different places, that it was impracticable to prepare a general law which could be efficiently applied without being unnecessarily onerous in its restrictions to some localities. A law was, therefore, prepared and recommended to the Legislature by the State Board, and with slight modification passed by the last Legislature. This law imposes upon the State Board of Health the duty of making rules and regulations for the protection of potable water supplies in the State, and gives to such rules and regulations the force of law when approved by the county judge of the county in which the water supply is situated.

The effect of this law is to enable the State Board to study the special dangers which threaten any particular water supply, and to adapt the protective regulations to the peculiar dangers of the case. Under this law the city of Rochester and the village of Fredonia have during the past summer had rules and regulations made for the protection of their water supplies, and in three other cases informal advice has been given which has substantially secured the same end.

In the case of the city of Rochester, the rules and regulations have been efficiently carried out, although the water supplies come from two different counties, and are used by the city of Rochester, situated in a third county. They have protected the water from pollution, and yet have not proved onerous to the large and varied population living on the water-shed. Not only have the rights of the property-owners been respected, but the rules made primarily for the protection of the people of Rochester have been of marked sanitary advantage by producing greater care and cleanliness in the premises of those living on the water-shed.

The case of Cortland, described in the report of the expert, shows how easily the health of the whole community may be threatened by the willfulness or carelessness of a single individual, as to the matter of polluting a public water supply. Sometimes, as in the case of Nyack, the danger to a water supply arises from too close proximity to cemeteries.

Occasionally where water is stored, the raising and lowering of the lake or reservoir undoubtedly seriously affects the health of the surrounding community. Such a case is illustrated at Rye lake, in Westchester county, where it was permitted by a special act of the Legislature.

The law authorizing the formation of the new aqueduct commission of New York makes it the duty of the State Board of Health to frame sanitary rules and regulations respecting the storage of water in the county of Westchester, and under the later law of 1885, the Board may at any time be called upon to make detailed rules and regulations for the protection of the water supply of the city of New York.

The problem of protecting the health of the people of Westchester county from the ill effects of the storage of great quantities of water for the use of New York city, and also protecting these waters from pollution, is a difficult and complicated one, and has engaged the serious attention of the committee, and of Consulting Engineer Gardiner. As yet no official action has been taken in the matter.

The case of the city of Albany affords another illustration of what has been accomplished by this Board in securing pure water for the citizens of the State. Upon examining the insanitary condition of the Albany basin, it was found, during a careful investigation made in the autumn of 1884, that the sewage of Albany was reaching its water supply, which was taken from the Hudson river. This led to an examination of the purity of the Hudson below Troy, and to the conclusion on the part of the committee, that the Hudson river above Albany was receiving so much sewage as probably to render it unfit for potable purposes.

As the danger was an increasing one, the Board addressed to the mayor and common council of the city of Albany, in November, 1884, the following resolution:

Resolved, That the mayor and corporation of the city of Albany be advised that, in the judgment of the State Board of Health, it is important that a thorough investigation be made of the dangers of the present water supply, and of the other possible sources from whence a supply could be obtained.

The full report of the Board and its experts was published and widely distributed. The matter provoked much discussion, and at last resulted in the creation of a special water commission, empowered, as the State Board had suggested, to examine all practicable sources of water supply to the city, as well as the sanitary condition of the Hudson river itself. The city board of health also made an investigation of the condition of the river. Prof. Mason, of Troy, after a very thorough chemical analysis of samples of the river water, taken between Lansingburgh and Albany, condemned it as having already become polluted with sewage beyond the limits recognized among chemists as safe. The chemist of the special commission, Prof. Leeds, arrived at the same conclusion, and the commission condemned the river water as now furnished to the city, as unfit for potable purposes, and recommended the supply from another source. Their recommendations were adopted by the common council, and under the law, the commission are empowered to proceed to furnish the city of Albany with a supply of pure water.

Such satisfactory results encouraged the committee in making every effort to follow out the work of securing pure and wholesome water for the citizens of the State, by investigating water supplies, detecting sources of pollution and setting clearly before the people the facts ascertained, and the direction in which remedies should be sought.

ERASTUS BROOKS,
Chairman.

DRAINAGE OF ABANDONED CANAL, ROME.

To the Committee on Drainage, Sewerage and Topography:

GENTLEMEN — Chapter 312 of the Laws of 1885 directs the drainage of the channel of the abandoned canal in the city of Rome and makes appropriation therefor, the work to be done by the Superintendent of Public Works, under the advice and direction of the State Board of Health. In pursuance of this act the matter was referred to me with power, and Mr. O. S. Wilson was sent to make surveys of the ground and report a plan for the drainage of the canal. His report is herewith transmitted with my approval of its recommendations, but with certain modifications as to the size and character of the channel which it is proposed to construct. The exact character of the drainage channel which I approve is hereinafter described.

Mr. Wilson's plan was made when the water was very high. The water is now low; and after examining into its present condition, Mr. Wilson is agreed with me as to the modifications of his plan.

Before discussing the details of this drainage plan, Mr. Wilson calls attention to the necessity for a system of sewerage in Rome, and to the present unwholesome methods of sewage disposal which are practiced there. In view of the great importance of this matter, I made a sanitary reconnaisance of the city and had a meeting with the mayor of the city and the board of health.

The streets of Rome are now so well graded and the gutters so well paved that there is no difficulty as regards the surface drainage of the city. Where the surface grades have proved too flat to carry off storm water, cheap and short storm-water sewers have been laid only three or four feet below the surface. These gutters and short storm-water sewers find outlet into Wood's creek; the existing canals and the bed of the old abandoned canal are on the southern side of the city. There are severe ordinances against turning any house drainage of any kind into these storm-water ways, and the ordinances are so rigidly enforced that I find no case of their violation. Where the storm-water drains of the city enter the bed of the abandoned canal there is absolutely no evidence of any pollution from this cause.

The great difficulty in Rome arises from want of some proper means of sewage disposal. The greater part of the city put the filthy wastes of their dwellings into the soil, which is of a very porous coarse gravel, down to the level of the ground water, which averages, perhaps, twenty feet below the surface in the higher part of the city.

The soil is so porous that the leechings from the privies and cess-pools pass rapidly away to the ground water. The city has an ample water supply; and where people have abandoned the use of their wells, they have, in a great many cases, made cess-pools of the wells, so that an enormous amount of filth is reaching the ground water directly.

The pollution of the ground water and of the soil of course pollutes the wells which are still in use, and in this way very seriously endangers the public health. It also endangers the health of all people by poisoning the ground air which rises through the cellars into the houses. This is especially while the ground is frozen, so that fevers and other diseases, resulting from filth poisoning, will be very likely to occur in the latter part of winter or early spring after the people have been breathing polluted air for several months.

The soil of Rome must contain from 30 to 40 per cent of its bulk of air. This air, being in contact with polluted soil and the grossly polluted water, must of itself become contaminated, and will eventually produce serious consequence to the public health of the city. A small number of people have built private sewers which empty into the canal. The sewage from the hotels finds its outlet in this way. As near as we could ascertain there are some twenty private drains carrying sewage which enter the Black river and Erie canal at Rome. The Superintendent of Public Works has ordered all sewers emptying into the canal to be cut off after reasonable notice to the owners. The question of a system of sewerage must, therefore, be immediately considered by the citizens of Rome.

With this view I made a very general reconnaissance of the city, and my impression is that it could be sewered by the separate system which will provide for the carrying away of all the sewage and for the drainage of cellars at a cost not to exceed $100,000; and that the outfall for this system may either be into Wood creek or into Mohawk river, or into both, and that to prevent the creation of nuisance it would be necessary to purify the sewage before the affluent is allowed to pass into either of these streams.

DRAINAGE OF ABANDONED CANAL.

The channel of the abandoned canal which skirts the southern side of the city of Rome is about 11,000 feet long. The fall is so slight and the channel so large that in time of low water the flow is almost expended. This abandoned channel is used as the outfall for five large ditches which drain the land that lies to the south of the city. It is of great importance that it should be kept open as an outfall for these drains.

The surface water from a number of square miles reaches the old channel so that in time of heavy rains a large amount of water finds its way to the abandoned canal; but the channel of this canal is in its present condition a nuisance owing to the fact that very large accumulations of organic matter have taken place in it, owing principally to the rapid growth and decay of vegetation in the channel. It has in time of low water carried into it by surface waters vegetation from the surface of the drainage area.

The old bottom which is now from twelve to twenty feet broad is covered with this decomposing organic matter or with a thick growth of aquatic plants which find nourishment from it, and so impede the current as to produce stagnation of the water. In only three places was I able to detect house or manufacturing wastes entering into the channel. One of these drains was from the knitting mill and there was no question that it brought down human excrement. The other is an old box drain opening close to the knitting mill drain, the water from which had an offensive odor. It is said that this drain was long ago cut off from house connections and that the offensive odor from the water is due to the fact that the drain was not properly cleaned when it was cut off. The third drain is from the oil tanks and brings down apparently merely oil which creates an offensive odor. The amount of organic matter brought down by these is so very small that the condition of the channel of the old canal below them is hardly any worse than it is above. They ought, however, to be cut off, and nothing but storm water should be allowed to enter the old canal.

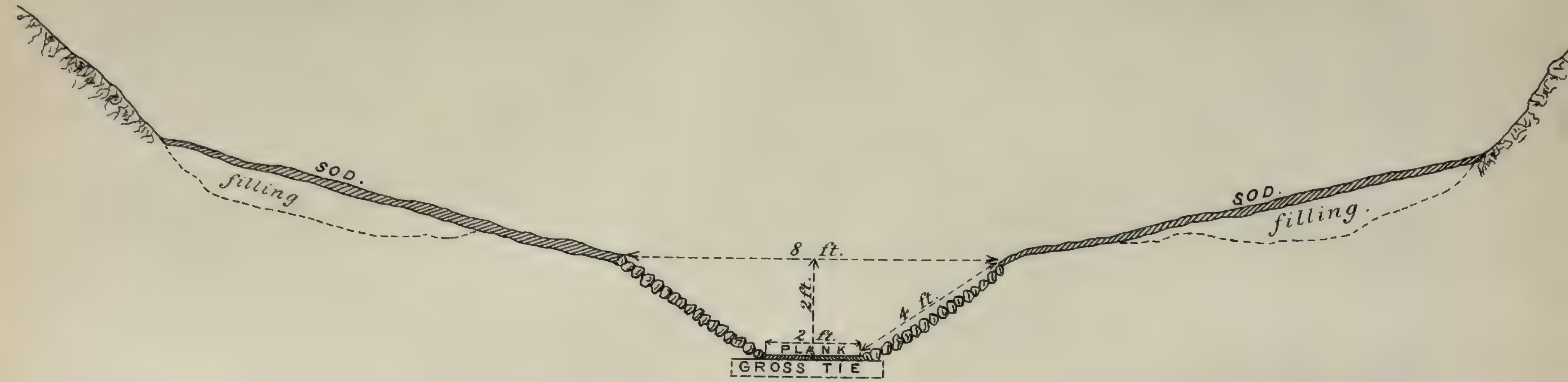
It appears, therefore, that the condition of the channel is a nuisance due not to the sewage from Rome being turned into it, but from accumulations of organic matter and silt. The water from the old canal finds outlet into Wood's creek just above Dockstatter street. The flow of this creek is sufficient to prevent any accumulations of water in the old canal, if the channel of the canal was put into condition to deliver its water into the creek. It is, however, possible to increase the flow of this creek by a small expenditure of money.

PLAN FOR DRAINAGE.

I examined every part of the old canal from the dive culvert at Whitehall creek to the entrance into Wood creek, and also the channel at Wood creek to the culvert under the Erie canal, a total distance of nearly five miles. From Whitehall creek down to Lawrence street the fall of the old canal is so slight and the channel so broad and so filled with vegetation and the amount of water entering the canal is so small that no flow is perceptible. It is not until after passing the entrance to a large drainage ditch below Lawrence street that a marked flow is observed. From James street down the fall increases, due to the channel having been cleaned some years ago, and here a very marked flow begins. From James street down to Jay the flow at present, except where it is dumped into pools, is sufficient to prevent any stagnation. The fall here is about nine inches to the thousand feet. Above Lawrence street there are no houses in the neighborhood of the old canal, nor are there likely to be.

The old canal passed out of the settled portion of Rome at Jay street. It is of the utmost importance to the health of the people that the channel should be in perfect sanitary condition between Lawrence and Jay streets, a distance of 5,725 feet. Below Jay street a perfect cleanliness of the channel is of less importance; but its grade is full of importance as facilitating the outfall of the upper part of the channel.

From Mr. Wilson's profile it appears that the best grade can be secured by cutting down the channel of the old canal in the upper part of Wood's creek, making an even grade from Lawrence street



Adopted Section

SCALE 1in. = 4 ft.

and Dockstatter avenue, near the Hammel farm. This is a distance of 8,865 feet. The fall will be about six and one-half inches to the thousand feet. The grade secured will be almost as good as if an even grade should be made from Lawrence street to the canal culvert, a distance of 21,000 feet. The fall from Lawrence street to the canal culvert is some thirteen feet. And if the old canal and Wood creek were graded to an even grade the fall would be about seven inches to the thousand feet. It, therefore, appears that in the matter of grade there would practically be no difference between a plan contemplating a rectification of Wood creek and one that would simply secure the grading of the old canal channel. I, therefore, recommend that the channel of the old canal between Lawrence street and the dry-dock culvert and the ditch and channel of Wood creek from the dry-dock culvert to Dockstatter avenue, be graded to a slope of six and one-half inches to the thousand feet. As regards the size of this channel it is important to its low-water flow that it should be as small as possible.

From an examination of the banks of the stream I find that the floods in the old canal move so slowly that there is no perceptible washing of the banks down to within six inches of the low-water surface. A heavy sod grows on these banks, which is not disturbed by the floods that sometimes cover them.

In view of this fact and of the very small amount of water flowing in the channel in summer, when it is most important that it should not stagnate, I recommend that the cross section of the channel be made only two feet on the bottom and two feet deep, with slopes of one and one-half to one. This will give a channel of two feet wide on the bottom and eight feet on the top, with a depth of two feet.

I recommend that the bottom of this channel be made of two-inch plank in order to secure smoothness and the most rapid flow on the light grade. The smoothness of the bottom will also facilitate cleaning.

The slopes of the channel should, as Mr. Wilson recommends, be made of cobble stones. These slopes will measure four feet on their surface. The channel here described will provide for the flow of the stream at all times, except unusual floods. To prevent the washing from floods, the bank above the cobble stones should be sodded. There are plenty of sods growing now upon the banks to accomplish this at a very small cost. I consider sodding better than sowing the banks with grass, because the sods already on the borders of the old channel have a very large mass of roots, which will very effectually prevent any washing in time of floods. The general level of the ground being some five or six feet above the old channel, the water-way included between the sodded banks will be ample to carry off freshets, and the movement will be so slow that it is not probable that any wash will take place. A diagram of the channel described is here given.

Above Lawrence street, I agree with Mr. Wilson that the only method of treatment will be to partially fill the old channel, leaving a narrow ditch for drainage purposes. This filling need not be deep to secure a great improvement in its sanitary condition. A filling of a foot and a half in the center of the channel, and of three feet on the sides would remedy the greater part of the evil which now exists in this raw, swampy and stagnant channel.

A small sum should be expended in cleaning out the channel of Wood creek, and in cutting away a few shallow bars which impeded the flow of the stream. With these slight modifications in the channel there will be ample outfall for the water from the old canal.

The first and most important part of the work is the grading from Dockstatter avenue to Lawrence street, and the constructing and paving of the channel from Jay to Lawrence streets. The appropriation is undoubtedly sufficient to accomplish this, and leave something over toward filling the canal above Lawrence street, and the carrying out of the measures suggested for the improvement of the flow of Wood creek.

Very respectfully yours,
JAMES T. GARDINER,
Consulting Engineer.

REPORT OF MR. WILSON.

JAMES T. GARDINER, Esq., *Consulting Engineer:*

SIR — The city of Rome, N. Y., contains about 12,000 inhabitants, and is situated upon a low divide between the waters of the Hudson and those of the St. Lawrence river.

The Mohawk river flows through the east and Wood creek through the west side of the city. The divide between these is less than twenty feet high in most of the city and is not easily located. It is I believe the only city in America that can sewer naturally into two great river systems.

The Black River canal joins the Erie at Rome. At an early day a canal with locks joined the Mohawk river and Wood creek, evidences of which still exist.

Before the enlargement of the Erie the main canal ran near the southern limit of the present city but was abandoned about forty years ago. The land south of the city lying between Whitehall's and Mud creeks is very flat and swampy. Much of this land has been reclaimed. About thirty years ago legal steps were taken to drain this area, and ditches were dug draining into the abandoned canal, some of which are indicated in the accompanying map. The soil upon which the city is built is loam or sand from one to three feet deep, underlying which is about eight feet of very coarse gravel; then a stratum of clay varying from a few inches to two feet in thickness, and beneath this is a stratum of finer water-washed gravel.

CITY WATER SUPPLY.

About twelve years ago a system of water-works was put in, taking the water from the Mohawk, about two miles north of the city. At present about one-half of the population relies upon common dug or driven wells that range from twenty to thirty-five feet in depth. Some uneasiness exists respecting the purity of the Mohawk river water furnished, owing largely to the amount of earth in suspension. Although I made no special examination I venture the opinion that the hydrant water is vastly superior to any well water in the city for reasons that will be given below.

DRAINS AND SEWERS.

The city has put in more than a mile of sewer pipe-drains to carry off the surface rain and snow water from the streets. One of these sewers empties into the old canal under the James street bridge. As might be expected some of the residents are desirous of putting their house sewage into these drains; but the local board of health are determined to keep such sewage out and deserve much credit for their watchfulness and care in this matter. Some of the hotels and business places and a few residences have sewers leading to the Erie and Black River canals which empty sewage. There are about twenty such sewers, most of them emptying below the water-line when the canals are full. Rome is on the long level, nearly sixty miles in length, of the Erie canal, and the summer flow of the Mohawk river and Wood creek is taken into the canal. These together with the water locked down the Black River canal forms the principal feeder for this long summit level. As a result there is a current in the canal both ways from Rome and the sewage emptied in is carried away from the city. While this method of sewage disposal is a benefit to Rome it is contrary to law and should be discontinued. Some residences supplied with river water that are too far from the canals to sewer into them economically have cess-pools into which house sewage is run. Some of these cess-pools are old abandoned wells dug into the water-bearing strata, from which, as stated above, about half the citizens derive their water supply. It is evident that this method of sewage disposal is the very worst that could be devised and it will, sooner or later, be fruitful in producing and spreading disease.

The city has no system of sewers, and the distance to which it seems necessary to go for an outlet has acted as an insurmountable barrier when the subject has been broached. It will be necessary to go about two miles east to reach a sufficient summer flow in the Mohawk to empty sewage into; or about the same distance west to reach a similar state of water in Wood creek. The city of Rome is well adapted to enjoy the advantages of the separate system of sewers and it can better afford to put such a system in now, than run the risks they now do, which would be much enhanced should the sewers now emptying into the canals be cut off by the State authorities, as they doubtless should and probably will be. The city is now enjoying a low death-rate.

After the preceding remarks of a general character, I now approach the main subject of this report.

THE ABANDONED CANAL.

This extends from the road near the dive culvert, through which Whitehall's creek passes under the Erie canal, on its way to the Mohawk, about two and one-tenth miles north-westward, to near the dry dock.

Along the line of this old canal several ditches enter from both sides, which with the overflow of Whitehall's creek in the spring, makes quite a stream, but in summer forms an elongated cess-pool with little water, and that stagnant. The bottom is filled with aquatic vegetation which hinders what little flow of water there is from rains. At the crossing of Lawrence street, which crosses at an angle with the canal, there is a stone arch culvert which makes an angle with both the street and the canal, that throws the water, leaving it against the cemetery bank, with the effect of washing said bank away, and washing a hole out in the canal bed. Efforts have been made to protect this bank, but so far have failed. At James street a sewer empties; on the east side of the N. Y. C. R. R. crossing a drain from the knitting mill empties. I did not ascertain if any deleterious material is emptied there. About a hundred feet west of said railroad crossing a drain enters from the north which empties more or less oil refuse, which not only renders the air offensive, but pollutes the water perceptibly for a mile below. This drain is a nuisance and should be abated. At the west end of this stretch of abandoned canal the water enters Wood creek, which has been straightened at this point for about 600 feet. At this point also is a culvert under the R., W. & O. R. R., through which the water from the dry dock, when it is emptied, enters the old canal. The difference of level in the canal is so slight (see profile) that in summer the emptying of the dry dock suddenly, of so large a volume of water, causes a back water flow as far as Jay street, before the creek below gradually carries it off. A deep hole has been washed out below said railroad culvert. The only place where the water from the old canal can get through under the Erie canal is about two miles—two and six-tenths miles by the windings of the creek—west of this railroad culvert, where a culvert was constructed for Wood creek. About half way down this creek Mud creek enters it from the south, and is about the size of Wood creek above the junction. These creeks run through low land, are from six to fifteen feet wide and about four feet deep. There are several places where fallen trees and stumps have formed partial dams.

At the time of my survey the streams were unusually high, owing to frequent heavy rains, and while the profile given is fairly accurate, I will re-run the levels during low water and give a more exact profile and grade before work is begun, frequent benches having been left for this purpose.

NEW YORK STATE BOARD OF HEALTH

Sketch to accompany

SANITARY REPORT ON THE DRAINAGE OF THE

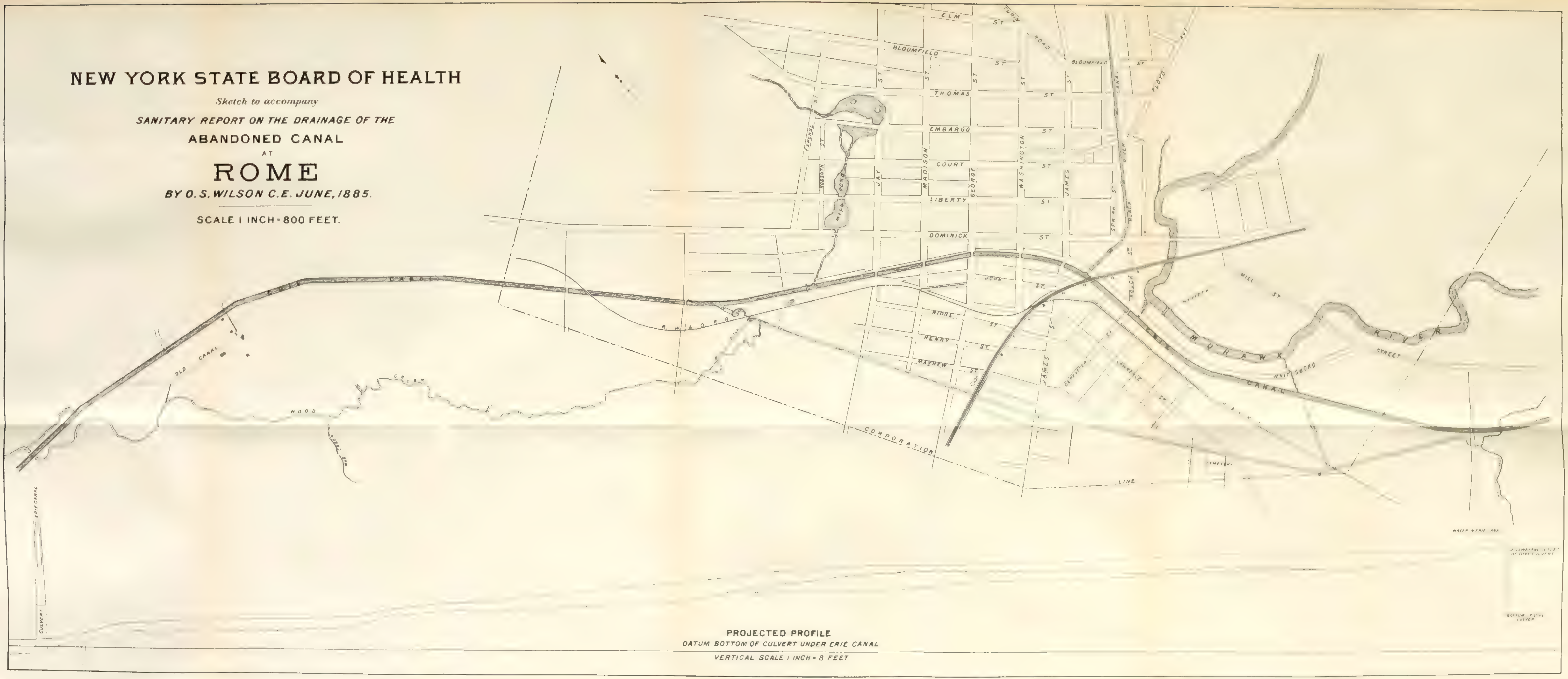
ABANDONED CANAL

AT

ROME

BY O. S. WILSON C.E. JUNE, 1885.

SCALE 1 INCH = 800 FEET.



Proposed Plan.

As it will be necessary to provide a free outlet for the drainage of the canal, I would propose the removal of the trees and other obstructions in the creek channel, and would advise that an extreme limit of $500 be the amount to be expended in the removal of obstructions and bars. Much less than that amount *may* suffice.

Through the old canal bed I propose to narrow the water channel for the summer flow of water. To dig a ditch about four feet wide on the bottom with sloping sides of one and a half or two to one; to be paved (see sketch appended) with stone in ground too soft to remain in place unsupported. I think hard clay or gravel will be found most of the way that will not require paving.

The length of the old abandoned canal is about 11,000 feet. The ditch should be dug through the entire length, the material thrown up on the bank, the whole bottom afterward covered with clean earth from the banks. Cobble stones can be obtained for eighty cents per cubic yard, delivered, which will pave about fifty square feet of surface, as the stones should be somewhat larger than ordinarily used in street paving. The paving of the sides of the ditch to be stopped at a height of about three feet from the bottom. There would be about sixteen square feet of paving per foot of length of ditch, and about one cubic yard of excavation.

I consider the following a liberal estimate per foot of length of the ditch:

16 square feet paving, at 4 cents........................	$0 64
1 cubic yard excavation, at 15 cents.....................	15
	$0 79

I would suggest that, so far as practicable, the proposed ditch be completed and paved at the west end and as far east as possible, so that what is done may be of permanent value. The State may never need this land for canal purposes again, and were it not necessary to provide a ditch for draining the low land on the divide, it might be the cheapest in the end to fill the canal as it was originally; still if it can be made unobjectionable from a sanitary standpoint and still answer as a main drainage ditch, it will be of great benefit to the adjacent owners and indirectly to the State at large; at the same time it would be to the advantage of all living near it to see that it is not made a dumping ground for dead animals and other objectionable refuse, simply because it is State land and not continually under close supervision.

I would suggest that the bank of the creek opposite the culvert at the dry dock be protected so it will not wash. I am not certain that it is the province of the State to do this, however.

A heavy wing wall of stone at the lower end of the culvert, under the Lawrence street crossing, should be so constructed as to turn the current in a direction parallel to the center of the canal. It would, in my judgment, prevent the washing of the cemetery bank, and would cost about $50. It may also be necessary to do some cleaning out of a channel of Whitehall's creek, but nothing of an expensive nature will be necessary.

Respectfully submitted,

June 12, 1885 O. S. WILSON, *C. E.*

ESTIMATES FOR ROME.

Excavating *Wood creek* below dry dock		$300 00
Widening and deepening 700-foot ditch, at 20 cts	$140 00	
Cleaning and deepening 1,600-foot creek, at 10 cts	160 00	
Dry dock culvert to Jay street — Deepening and grading channel, 1,750 feet, at 20 cts		350 00
Jay street to Lawrence street, 5,800 feet, at 78 cts		4,524 00
Providing material excavated will do for lining, the estimated price per foot is 70 cents, or, $4,060 made up as follows:		
8 square feet paving, at 4 cents	32 cents.	
5 feet hemlock, at $13 per M	7 cents.	
Laying same and spikes	3 cents.	
Excavation and filling one cubic yard, at 25 cts.	25 cents.	
Sodding banks	3 cents.	
	70 cents.	
Lining, one cent extra per square foot	8 cents.	
Building wing wall at Lawrence street		50 00
Filling and *grading* 3,500 feet *above Lawrence street*, 7,000 cubic yards, at 25 cents		1,750 00
Contingencies, *engineering* and *supervision*		1,026 00
Total		$8,000 00

O. S. WILSON.

THE ELMIRA REFORMATORY SEWER.

The committee herewith reports to the Board for its approval the plan for the Elmira Reformatory sewer, submitted by Consulting Engineer James T. Gardiner, and recommends its adoption.

ERASTUS BROOKS, *Chairman*,
GEORGE W. COOKE,
EDWARD M. MOORE, *President*,
ALFRED L. CARROLL, *Secretary*,
Committee.

Consulting Engineer's Report.

To the Committee on Drainage, Sewerage and Topography:

GENTLEMEN — Nearly a year ago I visited Elmira to examine the condition of the abandoned Chemung canal in that city, and I found that the prism for nearly half a mile was a prolonged cess-pool, and that one of the most prominent sources of pollution of the water in the abandoned canal was from the Elmira Reformatory sewer which is laid in the prism of the canal, but for a long distance is on the side slope of the canal, and raised above the surface of the water in the canal. This sewer is made of cemented pipe with open joints, and for much of its length was uncovered. The action of the weather had broken and enlarged the joints in many places. The sewage was freely running out into the canal.

The abandoned canal appears now to have become private property. As chairman of the committee of drainage, sewerage and topography I recommended in February last that the State Reformatory should proceed as soon as possible to construct a tight sewer covered with no less than three feet of earth, the same being built upon public property, where it would always be accessible for repair.

At my request the city engineer made a preliminary survey to determine whether a new sewer could be built following the line of a public street. The survey showed that it was practicable, and an appropriation for this purpose having been made by chapter 346 of the Laws of 1885, Mr. O. S. Wilson, by the direction of the Superintendent of Public Works, has made a final survey of this route, which proves it to be entirely possible and the only practicable route by which the Reformatory sewer can find outlet into the city system without traversing private property.

I, therefore, recommend that the present Reformatory sewer be cut and intercepted on Reformatory street between the Erie railroad track and the abandoned canal by a sewer fifteen inches in diameter where straight, and eighteen on curves, and passing along Park avenue, to Baldwin street, to Division, to Maxwell avenue, to East Washington avenue, and there enter the State system of sewers. The distance will be about 5,400 feet and a grade of one in a thousand is practicable. From East Washington avenue up to Division street the pipe should be eighteen inches in diameter, as the city will doubtless use it as part of their system.

Just below each street crossed and at each end of curves a manhole should be put in, also one at each connection with existing sewers. One should also be placed on the east side of the New York, Lake Erie and Western railroad crossing. As there will be but a few feet of earth on the pipe under the railroad track, it would be wise to make the sewer at this point of cast-iron pipe, fifteen inches in diameter.

In accordance with the law no work should be done until the proper authorities of the city of Elmira shall have given permission to lay the sewer in the streets of the city and to connect with the city sewers, and in consideration of the State granting to the city the right to use this sewer for city purposes, nothing should be done until the city agree to care for and maintain the Reformatory sewer within the corporate limits of the city.

Very respectfully yours,

JAMES T. GARDINER,

Consulting Engineer.

SPECIFICATIONS FOR THE ELMIRA REFORMATORY SEWER.

The line of the sewer to be constructed is as follows: Beginning at a point in the Elmira city sewer in East Washington street, near Maxwell avenue; thence by a curve into Maxwell avenue; thence along said avenue to a point near Division street; thence by a curve into said street; thence along Division street to a point near Baldwin street; thence by a curve into said street; thence along Baldwin street to a point near Park avenue; thence by a curve into Park avenue; thence along said avenue to a point near Reformatory street; thence by a curve into said street; thence along said street to a point to be selected by the engineer, where a junction will be made with the Reformatory sewer, now laid in said street.

The length of said curve will be about 5,300 feet, of which about 2,500 feet will be of eighteen-inch pipe, and about 2,800 feet will be of fifteen-inch pipe; about 100 feet (more or less) of said fifteen-inch pipe will be cast iron, weighing about 120 pounds per foot of length.

The sewer pipe to be used shall be of first quality, salt glazed, vitrified, earthenware pipe, without cracks or blisters.

About 120 six-inch Y branch connections will be used, about 70 of which will be in eighteen-inch pipe, and about 50 in fifteen-inch pipe (none in the iron pipe); these shall be put in at points to be designated by the engineer.

The connections should be put in as often as necessary for city use.

The range in depth of excavation is from 3.1 feet to 11.7 feet, with an average depth of 7.75 feet.

The soil, so far as is known, is gravel and clay.

There will be needed about twenty man-holes. The engineer reserves the right to make the number one or two more or less.

The sewer will be staked out by the engineer, and will follow, as far as practicable, the center line of the street.

The contractor will be required to preserve all stakes and benchmarks until permission is given by the engineer to remove them.

EXCAVATION.

All excavation should be by open cut from the surface.

Should the contractor think it best to keep the sides of the excavation vertical, by bracing or otherwise, it is expressly understood that it shall be done at his own cost.

The sides of the excavation, whenever it shall be necessary in the opinion of the engineer, shall be supported by suitable plank and shoring, but no allowance will be made therefor, unless the same is left in the trench by written order of the engineer.

The trench shall be dug to within six inches of grade, by measurement from the witness stakes on the surface. The last six inches shall be taken out after the grade pegs have been set in the bottom of the trench by the engineer. Grade pegs will be set by the engineer every twelve and one-half feet on the center line at the bottom of the trench.

In no case, without previous written permission from the engineer, shall more than 200 feet of trench be opened in advance of the completed sewer.

The material excavated shall be laid compactly on the sides of the trench, and kept trimmed up so as to be of as little inconvenience as possible to the traveling public and adjoining tenants.

The contractor shall not obstruct the gutter of any street, but shall use all proper measures to provide for the free passage of surface water along the gutters.

The contractor shall provide for all water-courses and drains interrupted during the progress of the work, and replace them in as good condition as he found them.

The earth shall be removed under the sockets of the pipe so as to allow the pipe to rest evenly along its whole length.

The excavation at the joints shall be at least six inches outside of the joints to be perfectly cemented.

The contractor will be required to observe all the ordinances of the common council in relation to obstructing the street, keeping open passage ways and protecting the same when they are exposed and would be dangerous to the public travel.

Upon the suspension of any work the trench is to be refilled and repaved or re-macadamized as the case may be, unless the engineer shall otherwise direct; and all materials, surplus earth, sand, rock and rubbish removed from the street within three days thereafter, or they will be removed at the contractor's expense.

In the progress of the work the contractor will be required to preserve from obstruction all railroad tracks which may be affected by the prosecution of the work herein described; and also afford the necessary facilities to the company or companies owning such tracks; or to their agents, in their preservation of the same from injury, without extra charge therefor.

Under the railroad tracks and over the culvert on the abandoned Chemung canal at the discretion of the engineer, sixteen-inch cast-iron pipe shall be laid with tight joints. The pipe to be pressure pipe of about five-eighths of an inch in thickness and weighing about 120 pounds per running foot.

PROTECTION OF WATER AND GAS PIPE.

The contractor shall do whatever may be necessary to keep in position and protect from injury all water and gas pipes, lamp-posts, service pipes, and all other fixtures which may be met with in carrying on the work.

In case any of the said gas or water pipes or other fixtures be damaged, they shall be repaired by the parties having control of the same, and the expense of such repairs shall be deducted from the amounts which may become due the contractor.

So far as is now known no gas pipes will be encountered and but one six-inch water pipe will be crossed, and that is supposed to be above the grade of the sewer.

PROTECTION AGAINST ACCIDENTS.

The contractor shall erect suitable barriers around all excavations to prevent accidents to passengers on the streets, and shall place and maintain during the night sufficient red lights on or near the work.

The contractor shall have charge of and be responsible for the entire line of sewers for whose construction he has contracted, until their completion and acceptance.

BACK FILLING.

The earth filled around and on top of the pipes shall be free from stone and tamped with the utmost care, so as to obtain the greatest compactness and solidity possible. In filling, the earth shall be kept at the same height on both sides of the pipe. The earth shall be rammed in layers of not more than one foot thick up to the surface of the street, and in no case shall the number of men filling be more than twice the number of men ramming.

The trench must in all cases be filled to the proper grade with suitable material, free from stones over four inches in diameter. Should there be a deficiency of proper material for refilling the trench, the contractor will be required to furnish the same at his own cost.

REPAVING AND RESTORING STREETS.

Where the pavement has been removed, it must be replaced by the contractor and left in as good condition as it was before being removed.

All surplus material and rubbish must be removed by the contractor.

All work of restoring the surface of the streets shall be done to the satisfaction of the engineer.

PROTECTION OF PROPERTY.

The contractor shall, at his own expense, shore up, protect and make good, as may be necessary, all buildings, walls or fences injured or liable to be injured during the progress of the work; and the contractor will be held responsible for all damage which may happen to neighboring property from neglect of this precaution or from any other cause connected with the prosecution of the work.

PIPES — HOW LAID.

Especial care must be taken to lay the pipe to the exact grade and line.

All pipes previous to being lowered into the trench shall be fitted together and matched, so that when jointed in the trench they may form a true and smooth line of pipes.

It is desirable that the pipe and the wire connections be from the same maker as otherwise the chipping and fitting necessary to form a joint is not only troublesome but objectionable.

All pipes shall be laid with a straight edge, beveled to grade, furnished by the engineer. One end of the straight edge shall be placed on the nearest grade peg and the other on the flow-line of the pipe to be laid, and the height of the pipe shall be so adjusted that a builder's level placed on the upper edge of the straight-edge shall be perfectly level. The level used for this purpose must be kept in perfect adjustment by the contractor.

JOINTS.

A gasket of oakum or other material approved by the engineer shall be pressed into the joint around the entire circumference of the pipe to prevent the entrance of cement to the inside of the pipe. No joint shall be cemented until the gasket of the next joint in advance has been completed.

The cement shall be pressed into the space between the socket and spigot so as to entirely fill the space, and the bevel joint at the end of the socket shall be smoothly and evenly made.

Special care must be taken to make perfect joints at the bottom of the pipe.

The excavation made for the socket of the pipe shall be filled with sand to support the cement firmly in position.

When the joint is completed, great care must be taken not to disturb the pipes.

CEMENT.

The cement for filling the joints shall be pure, fresh-ground Rosendale cement of best quality, with only enough water added to give it the proper consistency and shall be used as soon as mixed.

BRANCHES.

The "Y" branches and man-holes shall be placed at points indicated by the engineer. Their location will be indicated by stakes driven at the sides of the trench.

The "Y" branches shall be elevated to correspond to the lateral sewers and house-drains entering them. They shall be closed with an earthenware cap, and the space above the cap shall be filled with sand covered with a thin coating of cement.

SEWERS TO BE KEPT CLEAN AND FREE FROM WATER.

All the pipes must be kept thoroughly clean, and no water will be allowed to flow through them in any case whatever, during the construction of the sewers, unless properly settled.

When the trench is left for the night, or the pipe-laying is stopped by rain storms or any other cause, the ends of the pipes must be closed water tight with a plug and cement, or with bricks and cement, as the engineer may direct.

When running quicksand or other treacherous ground is encountered, the work shall be carried on day and night, should the engineer so require.

ARTIFICIAL FOUNDATION.

Whenever ordered by the engineer, in writing, the contractor shall excavate to such depth below grade as the engineer may direct, and the excavation shall be brought to grade with such material as shall be ordered by the engineer; the extra work to be paid for upon the estimate of the engineer.

If the contractor excavate below grade without orders, he will be required, at his own expense, to fill the excess of excavation with such material as the engineer may direct.

Concrete formations shall be placed under the man-holes when so directed by the engineer.

CEMENT MORTAR.

The cement mortar for man-holes, lamp-holes and concrete shall be made of best quality of fresh ground Rosendale cement and clean, sharp sand, in the proportion of one measure of cement to two of sand. The sand and cement shall be thoroughly mixed dry, and such quantity of water added so as to form a paste of the proper consistency. All mortar to be fresh for the work in hand. No mortar that has begun to set will be allowed to be used.

CONCRETE.

The concrete used on the work shall be made of stone, broken so as to pass through a two-inch ring, and cement mortar. The stone shall be free from dirt. The cement, sand and stone shall be mixed in the proportion of one of cement, two of sand and two of stone.

MAN-HOLES.

The man-holes shall be constructed of hard brick laid in cement mortar. The thickness of the wall shall be ten inches.

The man-holes shall be elliptical in cross section at the bottom four feet long and three feet wide inside measurement at the top of sewer pipe, to be afterward drawn into a circle of two feet radius at the top, which shall be ten inches below the surface of the street. The brick work to be surmounted with a cast-iron top and cover, such as are now used in the city of Elmira.

The man-holes shall rest on a plank foundation of two inches thickness, the top of said foundation to be eight inches below the bottom of the sewer. Sound hemlock plank to be used for said foundation. An eight-inch arch of brick shall be turned over all pipes entering a man-hole. The man-hole shall be constructed as the sewer is laid, except the filling in of the inside bottom of the sewer through the man-hole. This shall be put in all man-holes before the connection is made with the existing sewer on Reformatory street, as they may be needed as settling basins, or for the better pumping of water from the sewer during construction. The engineer reserves the right of altering the shape of the man-holes at the bottom. The bottom of the man-holes shall be laid in brick and cement mortar to the height of the top of the sewer pipe, the channel through said bottom being made to conform to the size of the pipes. At the discretion of the engineer, iron steps shall be put in the wall of the man-holes. Said steps to be made of three-fourths round iron, with two angles. Said step when in to project three inches into the man-hole, and to be twelve inches long. Said steps to be sixteen inches apart vertically. Said man-hole top, covers and steps can be obtained in Elmira for $10, or less, per man-hole. The top of said man-hole covers to be set at the present grade of the streets.

MATERIALS TO BE USED IN THE CONSTRUCTION OF BRICK MASONRY.

In the construction of the brick masonry, none but the best quality of whole bricks, burnt hard entirely through, shall be used, which are to be thoroughly wet immediately before being laid. Every brick is required to have full cement joints under bottom, sides and ends, which, for each brick, is to be formed at one operation, and in no case is it to be made by working in the cement after the brick is laid. The bricks to be culled as they are brought upon the ground, and all bricks of an improper quality immediately removed from the same.

MATERIALS — HOW FURNISHED.

All pipes and other materials shall be furnished by the contractor.

MATERIALS TO BE INSPECTED BY ENGINEER.

No materials of any kind shall be used in the construction of the sewers until they have been examined and approved by the engineer.

VARY WORK.

The work shall be carried on in such portions as the engineer shall direct, and he shall have power also to vary, extend or diminish the quantity of work, during its progress, without vitiating the contract; but no parts of the works shall be altered by the contractor from that shown on the drawings, or described in the specifications, without the express sanction of the engineer in writing. The engineer shall also fix the price to be paid for all work that may be necessary to be done that is not included in the contract.

FREEZING WEATHER.

No pipes or masonry will be allowed to be laid in freezing weather.

DISORDERLY OR INCOMPETENT WORKMEN.

If any person employed by the contractor on the work shall appear to the engineer to be incompetent or disorderly, he shall, on the requisition of the engineer, be immediately discharged, and such person shall not be again employed upon the work without the permission of the engineer.

OMISSION IN SPECIFICATION.

Should any work be accidentally omitted therein, which may be fairly implied as included in the contract, of which the engineer shall judge, the same shall be executed at the expense of the contractor.

LENGTH OF SEWER.

The length of the sewer will be measured on the center line of the pipe.

Should any delay occur during the construction on said sewer, owing to the non-delivery of sewer pipe or other material, the contractor shall pay the engineer during such delay his regular pay and expenses, such pay to be deducted from moneys due the contractor at the completion of the work.

INTERPRETATION OF TERMS.

Wherever the word "engineer" is used, it shall be held to mean the engineer in charge of the sewers, or his authorized assistant.

Wherever the word "contractor" is used, it shall be held to mean either any contractor or firm of contractors, or any member of a firm contracting for work herein specified.

Bids shall state the price per lineal foot of pipes of each size laid as herein specified, which price shall be in full for all labor and materials required for the complete execution of the work; also the price for each man-hole complete.

O. S. WILSON, *C. E.*

At a meeting of the State Board of Health, on the 24th of September, the above report was presented, and on motion was adopted by the Board, its recommendation approved, and a copy ordered transmitted to the Superintendent of Public Works.

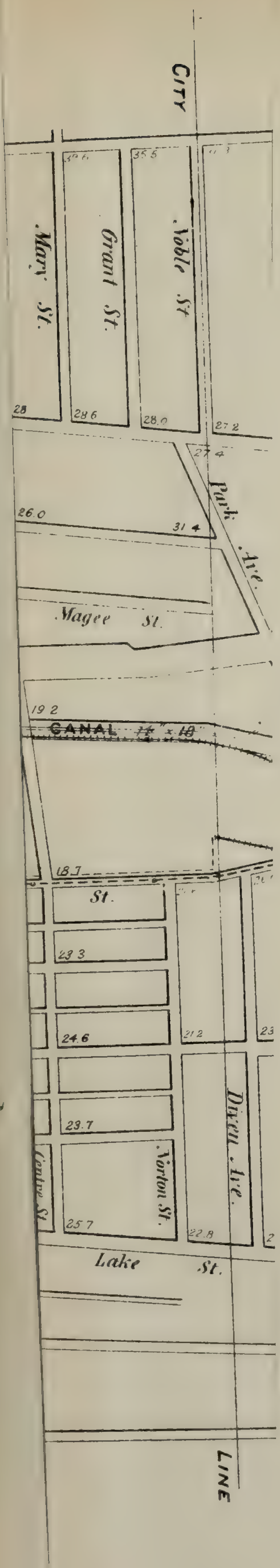
ALFRED L. CARROLL, M. D.,
Secretary.

The following documents show the appearance for an unforeseen nuisance, and method of remedy:

OFFICE OF THE BOARD OF HEALTH,
ELMIRA, N. Y., *January* 7, 1886.

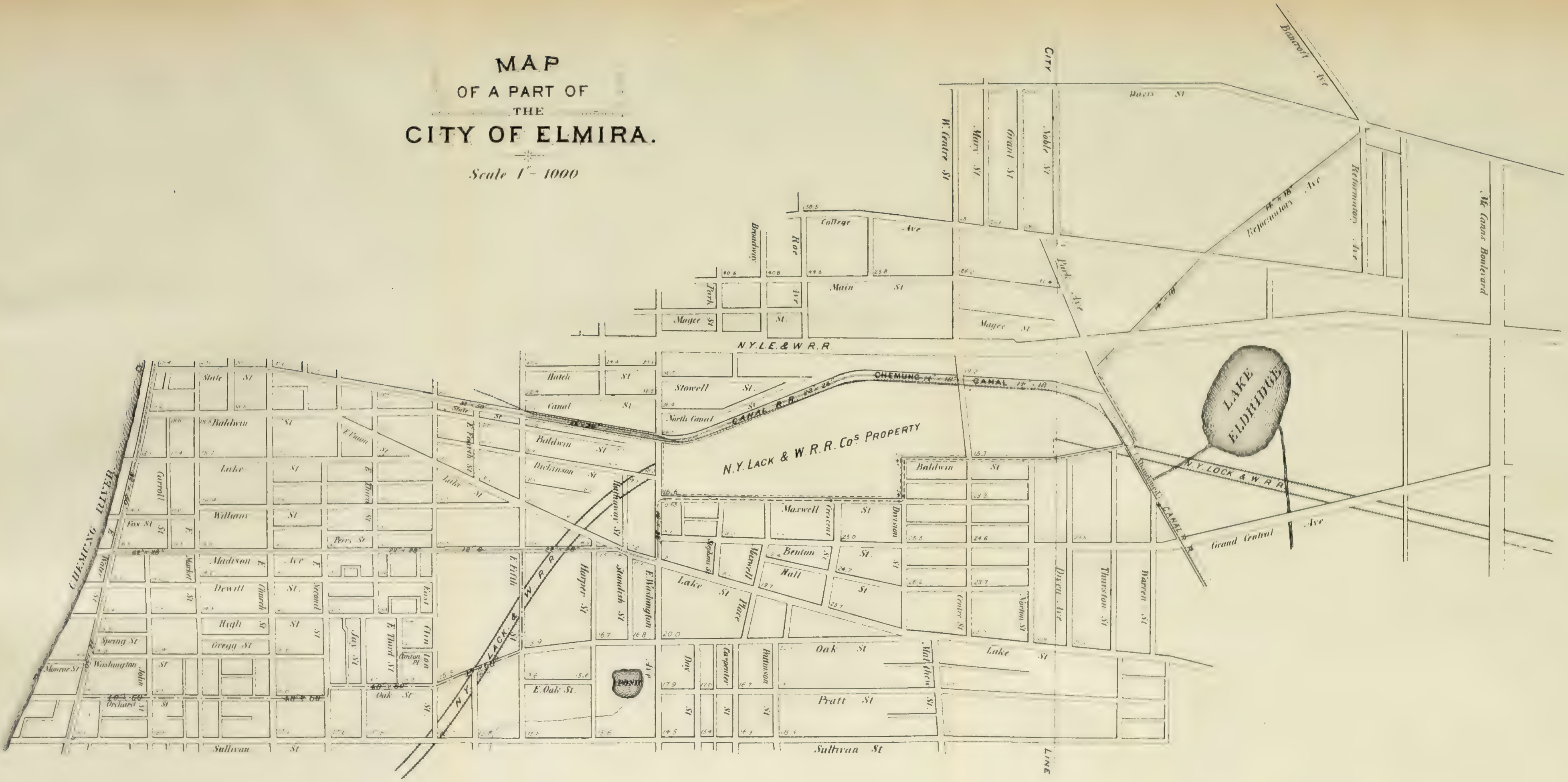
DR. ALFRED L. CARROLL, *State Board of Health, Albany, N. Y.:*

DEAR SIR — At a special meeting of the board of health of this city, held to-day, the following resolutions were unanimously adopted:


CITY
LINE
Mary St.
Grant St.
Noble St
Park Ave.
Magee St.
CANAL 14" x 18
St.
Dixon Ave.
Norton St.
Centre St
Lake St.
35.5
28
28.6
28.0
27.2
27.4
26.0
31.4
19.2
18.3
23.3
24.6
23.7
25.7
21.2
22.8

MAP
OF A PART OF
THE
CITY OF ELMIRA.

Scale 1" = 1000



Resolved, That it is the judgment of this board that the pollution of the wells from the contents of the Reformatory sewer, and the existence of gas in public school No. 4, in the Seventh ward, and in quite a large number of dwelling-houses, stores and buildings, all proceeding from the washing of oil gas at the New York State Reformatory, is detrimental to public health, and should be *immediately corrected.*

Resolved, That a communication be addressed to the State Board of Health, setting forth briefly the state of facts relative to the escape of gas and other contents from the State sewer in the seventh ward, and the said Board use means without delay to investigate the alleged nuisance before the public health is further endangered thereby.

Resolved, That the Secretary be instructed to transmit the above to the State Board of Health with a brief explanation of the existing circumstances.

In way of explanation I would respectfully add: The Elmira board of health to-day visited a large number of dwellings and stores along the line of the sewer. In several places the escape of gas from the sewer has made the places almost uninhabitable. A large number of wells have been affected by the sewer, and in many instances the people residing near by have been left entirely without water that is fit for use. The water was found to be tainted at a distance of over 300 feet from the sewer. A large public school building has the gas in extensive amounts, and the complaints from citizens are growing numerous and vehement. It appears evident that the damage will be extensive if some immediate remedy is not found.

Yours very respectfully,
EDSON C. GEORGE,
Secretary of Elmira Board of Health.

Consulting Engineer's Report.

To the Committee on Drainage, Sewerage and Topography.

The Secretary has referred to me a communication from the board of health of the city of Elmira, complaining that the new Reformatory sewer recently built, and originally planned in accordance with the advice of the State Board of Health, has created a nuisance in the northern part of Elmira, by causing the escape of gas into the cellars of a public school and a number of other buildings.

The gas mentioned is said to be produced from the washing of oil gas at the New York State Reformatory. I have already through an inspector been informed of the conditions attending this escape of gas. The facts concerning this Elmira sewer are briefly these:

On complaint of the city authorities at Elmira in the summer of 1884 the prism of the abandoned Chemung canal running through that city was examined and found to be practically an open cess-pool nearly half a mile long, the water standing in this prism at a level with the ground water of the surrounding tracts. The pollution of this water in the abandoned canal prism was endangering the health of the city in two ways; first, by the contamination of the air, and secondly, by the fact that it polluted the ground water which flowed through the loose soil of the northern part of Elmira. This pollution of the ground water doubtless affected the ground air, and so both the ground water and the ground air which reached the cellars and the wells were endangered by the canal prism.

The principal cause of the contamination of a long section of the canal prism was the leaking of the Reformatory sewer which was open at every joint, and laid so near the surface of the ground that it was impracticable to keep it in proper condition. After carefully considering all the circumstances, I found that in order to construct a proper sewer it would be necessary to change the route and lay the sewer in one of the public streets of Elmira, giving it outlet into the city sewer system. I so recommended to your committee.

In accordance with these recommendations, the then existing condition of the Chemung canal prism was declared to be a dangerous nuisance, and it was recommended that provisions should be made by the State for laying a proper sewer in one of the public streets of Elmira, where it would always be accessible for examination and repair, and where it could be covered with not less than five feet of earth. The last Legislature made appropriation for this work with the proviso that it should not be executed without the consent of the city of Elmira, and unless it would undertake, when the work was completed, the future maintenance of the sewer, which should then become city property, but through this sewer the Elmira Reformatory should always have the privilege of disposing of its sewage.

During the early part of the summer of 1885, the common council of Elmira passed an ordinance prescribing the route which should be followed by this sewer, and the method of its construction. They declared that it must be built of cement pipe, in accordance with the method followed in the other city sewers. They appointed the assistant city engineer inspector of the work, to see that the wishes of the city were thoroughly carried out.

The sewer was constructed on the route laid down by the city of Elmira, and in the way described in the city ordinance, under the direction of the Superintendent of Public Works of the State. The assistant city engineer, appointed by the mayor, inspected the work and declared on its completion that it was properly done. Mr. O. S. Wilson was the engineer in charge for the Superintendent of Public Works.

The work was done under contract, and from the efficiency of the double supervision I think there is every reason to believe that there is no better cement pipe sewer in Elmira. Where the sewer joins the city system it is below the level of the ground water. As it goes northward it rises gradually above the level of the subsoil waters, and in the region where the gas nuisance is complained of, it enters a soil composed of coarse dry gravel containing almost no loam or clay. Through this coarse gravel the air circulates as freely as through a heap of stones. The surface of the ground is now frozen. The strong odors of the gas waste escape through the joints of the sewer, and finding no outlet through the frozen surface, are drawn through the currents of ground air toward the cellars of heated houses and the wells, which form the chimneys for the escape of the ground air.

The odors of this gas waste is almost as permeating as that of the oil of peppermint. It easily penetrates two or three hundred feet through the dry gravel, and doubtless is an offensive nuisance in the district from which the complaint comes.

The fault in this matter cannot be laid to the construction of the sewer. No cement pipe sewers are air-tight, nor do they even approximate to such a condition. Where these sewers are laid in a clay or other compact soil, the air from them does not penetrate into the soil to any great distance from the sewer, but where the soil is a coarse dry gravel it is not possible to prevent the air from escaping from cement pipe sewers, and going wherever the underground currents traverse the soil.

In the case of the Elmira sewer there is but one means of remedying the offensive nuisance complained of, and that is to keep the gas refuse out of it.

I do not believe it practicable to so ventilate this sewer as to prevent the odor from the gas wastes from penetrating the soil and affecting the ground water and the ground air, especially in winter when the surface is frozen, and when the currents of ground air necessarily set strongly toward both cellars and wells, nor do I think it practicable to build an *air-tight* cement pipe sewer in this coarse, gravelly soil.

There is no reason to suppose that this sewer is not one of the best of its kind, but from the fact of its traversing this coarse and peculiarly porous soil above the level of the ground water it is evident that it will not answer for the disposal of the gas wastes. I recommend that these facts be set before the board of health of the city of Elmira, and the authorities of the Elmira Reformatory, with the hope that they may agree upon a method of gas waste disposal which will cause no nuisance to the city of Elmira.

Very respectfully yours,
JAMES T. GARDINER,
Consulting Engineer.

At a special meeting of the State Board of Health, held on the 14th of January, 1886, the drainage committee submitted the above report of Consulting Engineer Gardiner, and recommended its adoption.

On motion, it was

Resolved, That the report and recommendations of the Consulting Engineer on the State Reformatory sewer at Elmira be and hereby are approved and adopted.

Resolved, That copies be sent to the board of health of the city of Elmira, and to the superintendent of the Elmira Reformatory.

ALFRED L. CARROLL, M. D.,
January 15, 1886. *Secretary.*

THE DRAINAGE OF THE PRISM OF THE ABANDONED CHEMUNG CANAL BETWEEN THE VILLAGES OF NORTH ELMIRA AND PINE VALLEY.

The committee herewith report to the Board the plan recommended in the annexed report of Consulting Engineer James T. Gardiner, and recommend its adoption and approval, the work to be executed by the Superintendent of Public Works under chapter 470 of the Laws of 1885.

ERASTUS BROOKS, *Chairman.*
GEORGE W. COOKE.
E. M. MOORE, *President.*
ALFRED L. CARROLL, *Secretary.*

Consulting Engineer's Report.

To the Committee on Drainage, Sewerage and Topography:

GENTLEMEN — In accordance with the direction of the committee, I examined, on September 16, that part of the abandoned Chemung canal which lies between the villages of Pine Valley and North Elmira to determine upon a plan for the drainage of this part of the abandoned canal. A survey of this locality had been executed by Mr. Wilson for the State Board of Health in 1884. From the data furnished by this survey, it appears that there are two feasible methods of draining that part of the canal prism which is now a swamp. The cheapest method, however, and that most likely to be permanent in its results, is undoubtedly to ditch the center of the prism from the town line of Veteran and Horseheads down to a point designated on Mr. Wilson's map as being just north of the land owned by Peter Adams. At this point a cut is made from the canal prism to the creek. A ditch already exists from this cut for several thousand feet to the southward. It is not thoroughly operative for the reason that the outfall into the creek is not sufficiently low, owing to the elevation of the surface water in the creek, nor is the ditch of sufficient width or proper grade.

After carefully examining the various possibilities I recommend that from the land of Peter Adams to that of John Dilmore near lock No. 44 the bed of the creek be so cleaned out as to lower the water surface at least two feet at the north line of Peter Adams' property; that the present outfall ditch from the canal into the creek be so enlarged and graded as to form a permanent outfall for the drainage of the abandoned canal; that from this outfall, which is situated on the land marked on Mr. Wilson's map as belonging to John Banks, near the southern line of his property, a ditch two feet wide on the bottom be excavated in the center of the canal prism to the town line of Veteran and Horseheads, where the bottom of the ditch should be four feet below the present water surface. From this point the ditch should have a uniform fall to the outlet. South of this point the canal prism should be ditched as far south as the means provided will allow, and with such fall as the grade permits.

The cleaning out of the creek bottom from the outlet of the canal ditch down to lock No. 44, and the improvement of the channel should be such as to permanently lower the water at least two feet. I feel quite confident that this plan, if properly executed, will afford permanent relief to this region and result in the reclamation of a large amount of valuable land adjoining the canal.

Very respectfully yours,
JAMES T. GARDINER,
Consulting Engineer.

At a meeting of the State Board of Health on September 24, at Albany, the above report was presented, and on motion was adopted by the Board, its recommendations approved, and a copy ordered transmitted to the Superintendent of Public Works.

ALFRED L. CARROLL, M. D.,
Secretary.

The following documents show a modification of plans, and the reasons therefor:

ALBANY, *January* 4, 1885.

Hon. ERASTUS BROOKS, *Chairman Committee on Drainage, Sewerage and Topography:*

DEAR SIR — I have the honor to recommend that the plans for the drainage of the prism of the abandoned Chemung canal in Pine Valley be modified as follows: Instead of giving outlet to the drainage ditch down the center of the canal into the creek about a mile above the lock, as originally intended, I recommend that the ditch be carried on down the center of the canal to a point not far above the lock where a cut has already been made from the canal to the creek, and that this be made the outlet for the drainage of the canal prism. All other connections between the canal and the creek above should be closed. The ditch should have such slopes as will maintain themselves in the different material traversed.

As respects the work at Havana, I recommend that the culvert under Ayers street be made large enough to carry off water which overflows from the creek in time of flood, and that the pipe drain laid in the bed of the canal be extended up to the dive culvert, there to receive the surface drainage from the prism above. I recommend that the prism above the dive culvert be drained by a a surface ditch rather than by subsoil drains, as at first proposed. This change is made on account of Mr. Wilson's report that the quicksands under the canal bed would soon fill up the subsoil drains.

As this matter was referred by the Board to the committee with power, and as the Superintendent of Public Works is anxious to proceed at once to complete the work, will you, if you approve the recommendation, kindly return this letter with an indorsement that the modifications of the plans are adopted?

Very respectfully yours,
JAMES T. GARDINER,
Consulting Engineer.

The question of modifying the plans for the drainage of the prism of the abandoned Chemung canal having been referred, with power, to the committee on drainage, sewerage and topography, the above recommendations of Mr. Gardiner have been approved by that committee.

ERASTUS BROOKS, *Chairman.*
GEORGE W. COOKE.
E. M. MOORE, *President.*
ALFRED L. CARROLL, *Secretary.*

At a special meeting of the State Board of Health on the 14th January, 1886, the above report of the drainage committee was approved and adopted.

ALFRED L. CARROLL, M. D.,
January 15, 1886. *Secretary.*

REPORT CONCERNING COMPLAINT FROM THE TOWNSHIP OF FLORIDA, MONTGOMERY COUNTY.

To the Secretary of the State Board of Health:

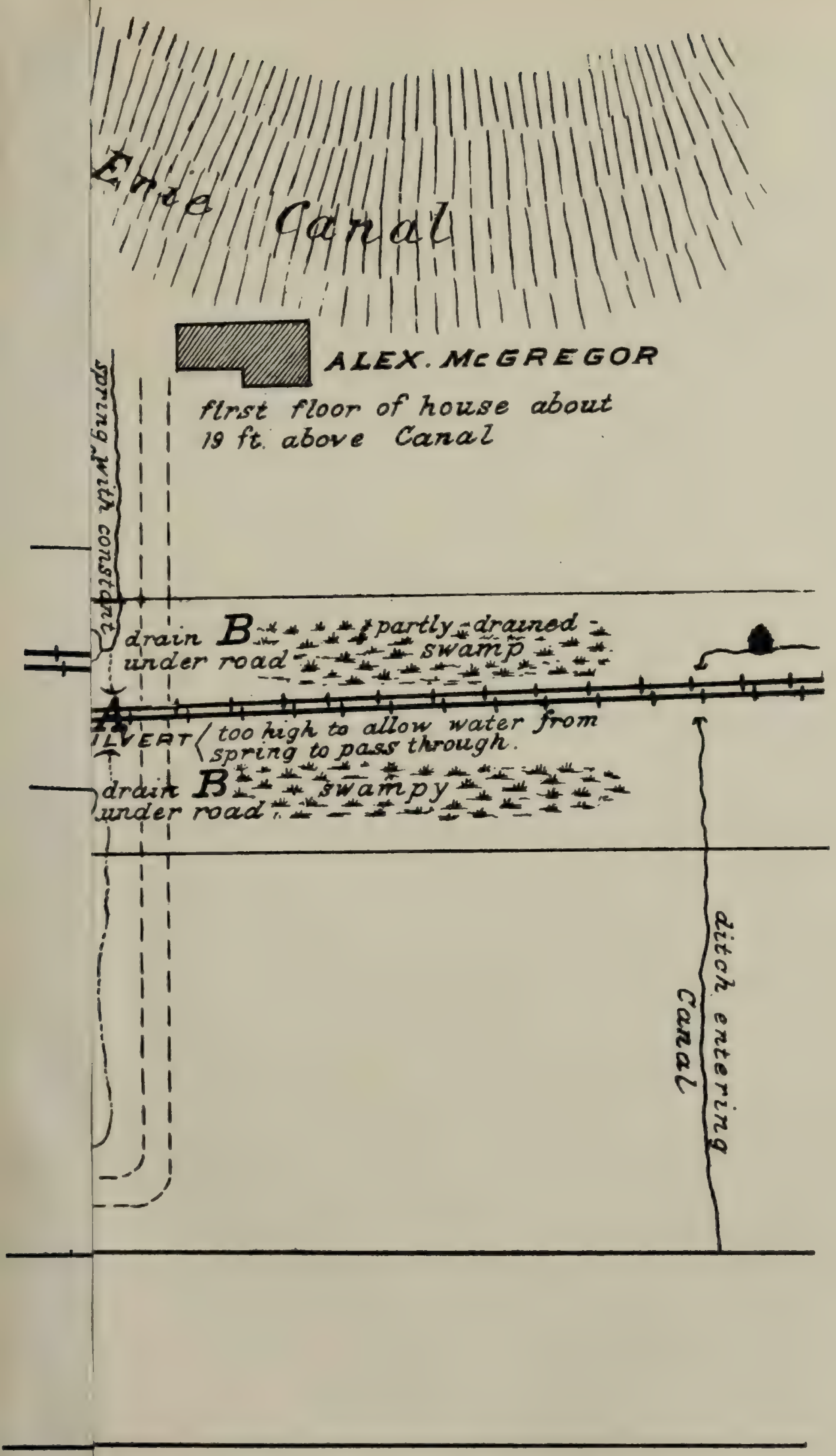
SIR — In accordance with your instructions I have examined the conditions that have been the occasion of complaint, in the township of Florida, Montgomery county, and herewith present my report.

The pools of stagnant water described in the complaint had received recently a large amount of rain-water, hence they were somewhat improved in appearance, otherwise the conditions appeared to be as described in the complaint.

The house of Mr. Alex. McGregor, the petitioner, is situated upon the south side of the Erie canal and about 360 feet from it. The land slopes gently to the north, and formerly was effectually drained by a ditch running parallel to the canal and passing under the latter by means of a culvert about 700 feet east of Mr. McGregor's house. When the New York, West Shore and Buffalo railroad was built an embankment ten or twelve feet in height was constructed about 100 feet north of the house and between it and the canal.

Ditches were indeed dug on each side of the embankment with the design of leading off the water, but these are very shallow and accomplish this object very imperfectly.

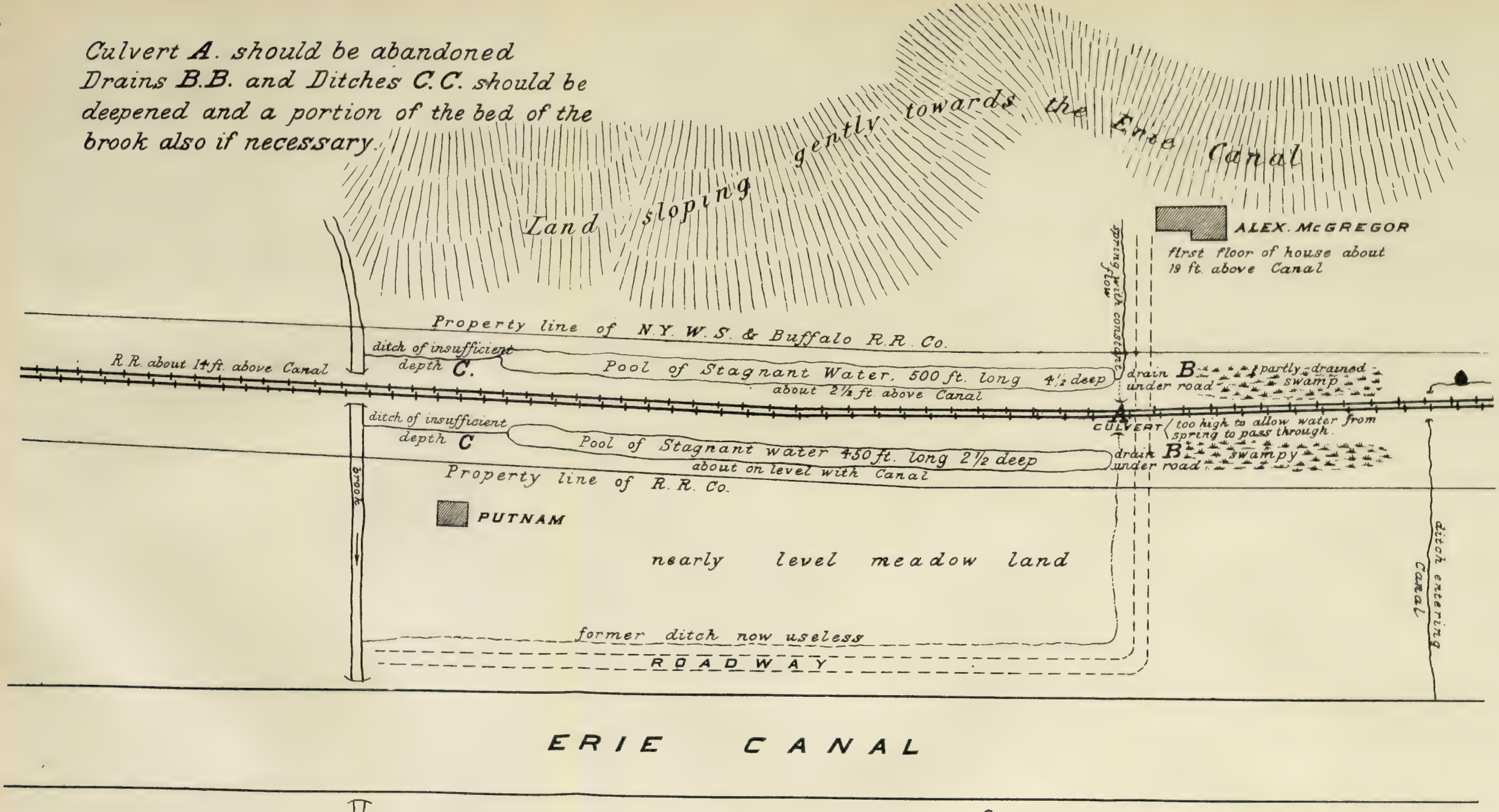
Mr. E. H. Putnam, a surveyor, has found the level of the water in the ditch nearest the house to be two and a half feet higher than in the ditch nearest the canal; the level of the water surface in the



ABOUT 100 FT. TO 1 INCH.

UGUST 29TH 1885.

HORACE ANDREWS, JR, C.E.
del.



Land sloping gently towards the Erie Canal
ALEX. McGREGOR
first floor of house about 19 ft. above Canal
spring with constant flow
Property line of N.Y. W.S. & Buffalo R.R. Co.
ditch of insufficient depth C.
Pool of Stagnant Water. 500 ft. long 4½ deep
about 2½ ft. above Canal
R.R. about 14 ft. above Canal
drain B under road
partly drained swamp
A
CULVERT
too high to allow water from spring to pass through.
ditch of insufficient depth C
Pool of Stagnant water 450 ft. long 2½ deep
about on level with Canal
drain B under road
swampy
Property line of R.R. Co.
brook
PUTNAM
nearly level meadow land
ditch entering Canal
former ditch now useless
ROADWAY
ERIE CANAL
S
N

*Culvert **A**. should be abandoned*
*Drains **B.B.** and Ditches **C.C.** should be deepened and a portion of the bed of the brook also if necessary.*

SKETCH
Showing Conditions that have been
the occasion of Complaint
in the
TOWNSHIP OF FLORIDA.

SCALE ABOUT 100 FT. TO 1 INCH.

AUGUST 29TH 1885.

HORACE ANDREWS, JR. C.E.
del.

latter ditch was very nearly the same as in the canal at the time of my visit.

The evidence is very clear, therefore, that the railroad embankment has caused the level of the ground water in the immediate vicinity of Mr. McGregor's house to be considerably raised; moreover the water being held from flowing off varies slightly in level from time to time as it is evaporated, or augmented by rains, so that the conditions seem favorable for the malarious complaints that exist.

In the present instance there would seem little difficulty in thoroughly draining the ditches according to the plans suggested by the surveyor, Mr. E. H. Putnam. Care should be taken that the ditches are of sufficient depth to accomplish their object, and after being dug they should be kept clean. The drain-pipes designed to lead the water under the roadway leading to Mr. McGregor's house are too high and should be lowered considerably, otherwise the land lying immediately in front of the house can receive no benefit from an increased depth of ditching.

The accompanying sketch illustrates the conditions described in this report.

Very respectfully yours,
HORACE ANDREWS, JR.,
Civil Engineer.

ALBANY, *August* 29, 1885.

LATER REPORT ON THE SAME SUBJECT.

To the Secretary of the State Board of Health:

SIR — In accordance with your instructions I have again examined the ditches in the vicinity of the house of Alex. McGregor, in the township of Florida, Montgomery county. My first examination of the nuisance in question was made on August 28, 1885, and I shortly after submitted a report to you. In accordance with recommendations then made, the local board of health obtained from the New York, West Shore and Buffalo railroad a promise that the matter would receive attention.

Upon the occasion of my second visit, on November 10, 1885, I found that the railroad company had taken steps to remedy the evils complained of, and had promised to complete the work as soon as practicable. There is no doubt that the nuisance could have been effectually abated within a few days, by more prompt action on the part of the railroad officials.

Owing to the recent heavy falls of rain and the lateness of the season, the work required cannot now be prosecuted without considerable inconvenience, while the conditions at present existing can hardly be detrimental to health during the winter months.

It would, therefore, appear that the assurances of the local board of health that attention will be directed to the nuisance early in the spring, and that the recommendations of your Board will then be promptly and thoroughly carried out, should be accepted, and the railroad company may properly be allowed to wait till the winter is past before completing the needed improvements.

It would be advisable for the railroad company to commence their operations by taking the necessary levels and completing the outlet ditches first, in order of time, after which the wide ditches could be filled to the former level of the land with advantage, thus avoiding the necessity of any deep ditching at the outlets.

Very respectfully yours,
HORACE ANDREWS, JR.,
ALBANY, *November* 11, 1885. *Civil Engineer.*

PLAN FOR THE DRAINAGE OF THE ABANDONED CHEMUNG CANAL IN THE VILLAGE OF HAVANA.

The committee herewith submits to the Board the plan approved by Consulting Engineer James T. Gardiner, for the drainage of the prism of the abandoned Chemung canal in the village of Havana, the drainage of which is, by chapter 470 of the Laws of 1885, to be done by the Superintendent of Public Works, under the advice and direction of the State Board of Health.

The committee approves the plan of Consulting Engineer Gardiner, and recommends its adoption by the Board.

ERASTUS BROOKS, *Chairman,*
GEORGE W. COOKE,
E. M. MOORE, *President,*
ALFRED L. CARROLL, *Secretary,*
Committee.

Consulting Engineer's Report.

To the Committee on Drainage, Sewerage and Topography.

GENTLEMEN — In accordance with your directions I visited the village of Havana on the 16th of September, to determine on a plan for the drainage of the prism of the abandoned Chemung canal, in the village of Havana, in order that the Board might approve of a plan to be carried out by the Superintendent of Public Works, in accordance with chapter 470 of the Laws of 1885.

In January last, this village had been visited and examined by O. S. Wilson, C. E., acting for the State Board of Health, and on his examination, the State Board of Health, on the 17th of February, 1885, declared that the condition of the prism of the abandoned canal in Havana was a nuisance, and recommended its drainage substantially in accordance with the plan then submitted by Mr. Wilson.

I examined the ground, and fully concur in the conclusion reached by Mr. Wilson that a part of the canal prism, especially that lying south of South street, is a nuisance, dangerous to life and detrimental to health.

From this point southward for a distance of some 2,400 feet, the prism of the canal is excavated below the level of the ground water, and the water which fills this part of the canal is, therefore, not surface water, which is drained into it, but sub-soil water which stands at this level. The rapid growth and decay of a large amount of vegetation in this water, the surface of which fluctuates with the ground water, produces conditions most favorable to the development of malarial disease. This condition can only be remedied by filling the prism to a height several feet above the level of the ground water, or by draining; that is by such drainage as will lower the surface of the ground water below the bed of the canal. The latter course, that of drainage, is decidedly the cheaper, and has the added advantage, from a sanitary point of view, of providing for the storm water that will naturally accumulate in such a depression at certain seasons. The lowering of the ground water of this part of the village will doubtless be a benefit to the health of the people.

This sub-soil drainage of the part of the prism to the south of South street can best be accomplished by laying two lines of agricultural drain tile along the bed of the canal. The tile should be of a diameter of six inches. To give outfall to these drains it will be necessary to lay a drain from South street to the south end of Lock No. 1, a distance of some two thousand feet, and then to run a culvert, which may be also of drain pipe, under Ayres street. The drain from South street to Lock No. 1 should be of best salt glazed vitrified pipe, twelve inches in diameter. The culvert under Ayres street should be eighteen inches in diameter. A catch basin should be placed at the junction of the sub-soil drains and the main outfall drain just south of South street, with the bottom of the manhole below the level of the drain for catching any silt that may come down.

Mr. Wilson's original plan provided for the carrying of a twelve-inch drain through to the water on the south side of Ayres street, and for the filling of Lock No. 1; but this does not seem to me necessary, as the lock itself is considered a proper outfall for the water. A good current will be created through it by the admission of the water from the drain at its south end, while at its north end a large culvert will connect it with the old canal prism, which has now become as it were a branch of the lake.

The use of the lock as an outfall will considerably reduce the cost of the work. The fall from South street to Lock No. 1 provided for in his plan, a map of which I append, is ample. It is about one foot in a thousand. I, therefore, recommend for the approval of the committee the plan submitted by Mr. Wilson with the modification that the outlet should be into Lock No. 1 rather than into the canal at the north side of Ayres street, and that a culvert be placed under Ayres street, and that the lock excavation be left open.

Very respectfully yours,

JAMES T. GARDINER,
Consulting Engineer.

At a meeting of the State Board of Health on the 24th of September, the above report was presented, and on motion was adopted by the Board and its recommendations approved, and a copy ordered transmitted to the Superintendent of Public Works.

ALFRED L. CARROLL, M. D.,
Secretary.

DRAINAGE OF A SWAMP IN THE TOWN OF WESTCHESTER, NEAR CLASON'S POINT.

A petition having been received from property-owners in the town of Westchester, and the president of the trustees of the school district interested, asking for an investigation into the condition of a tract of marsh between the estate of William Watson and Clason's Point, which it is alleged is affecting the public health, Consulting Engineer James T. Gardiner was directed to examine into the matter and report to the committee. His report, which is approved, is hereto appended. In accordance with the suggestions we recommend that the Board declare the condition of the tract of marsh crossed by the highway, and lying between the estate of William Watson and Clason's Point, to be a nuisance, and recommend the drainage of the tract under a commission appointed by the court, in accordance with the provisions of the general drainage law, chapter 888 of the Laws of 1869, and the amendments thereof.

ERASTUS BROOKS, *Chairman,*
GEO. W. COOKE,
E. M. MOORE, *President,*
ALFRED L. CARROLL, *Secretary,*
Committee.

Consulting Engineer's Report.

To the Committee on Drainage, Sewerage and Topography:

GENTLEMEN — In accordance with your directions I visited the town of Westchester to examine a large piece of marsh land lying between the estate of William Watson and Clason's Point.

The piece of marsh of which complaint is made to the State Board of Health is crossed by the main road between the estate of William Watson and Clason's Point. The road crosses the marsh on a causeway. There are said to be some hundreds of acres here which are now so flooded at high tide that the land is kept continually saturated. My visit was made at about low tide, for the purpose of seeing the swamp in its worst condition. The rapid growth and decay of vegetation has caused such a deposit of decomposing matter that a very offensive odor is perceived at the road even in cool weather. This condition of things is alleged to be of comparatively recent origin. Some distance below the road at the southern edge of the swamp two rocky promontories come out from either side, quite close to the stream which drains the central part of the marsh.

Here a short dam or dyke has been constructed crossing the marsh. Formerly a tidal gate was maintained by the town which was said to be effective in keeping back the flood tides so that the marsh was rarely submerged. The surface of the marsh was so far above the low tide line as to drain itself if not constantly saturated. It is said that when the flow of the tide was kept out by the tidal gate, the surface of the marsh was drained and was covered with a fine growth of grass which the owners were in the habit of mowing. Certainly if this is the case the former condition was far more sanitary than that which exists at the present time; for there can be no doubt that the present condition of the marsh is liable to affect the health of those living or coming within the reach of its miasmatic influences. A public school has recently been erected quite close to the swamp, and I see that the president of the board of school trustees is one of the complainants in this matter.

No one familiar with sanitary investigation can doubt that the present condition of the swamp is a nuisance and that its drainage and reclamation to such an extent as to convert it into a meadow would be a material advantage to the public health; and it would further seem that the method formerly practiced of keeping out the flood tides by the tidal gates, while letting the waters of the swamp flow out at low tide, would be an efficient remedy for much of the present evil, provided that in connection with such work the swamp was thoroughly ditched as it was said to have been formerly.

It is said that the town became tired of maintaining the tidal gate at the mouth of this swamp under the impression that the main benefits accruing were enjoyed by the owners of the land reclaimed and not by the township at large.

It is true that the owners of the swamp and the owners of the land immediately adjoining the swamp were probably very largely benefited by the tidal gate, but the township at large was also benefited in the matter by the condition of the highway or causeway crossing the swamp. This causeway is now flooded at very high tides, and the road upon it damaged. It also appeared to me that owing to the saturation or softening of the swamp the causeway was in places settling into the muck. It is probable, therefore, that the drainage of the swamp would make the repairs upon the road less costly; but in addition to this there would be a benefit to the health of the people of the neighborhood, to the children attending school, and also a benefit by the removal of the danger which now exists in greater or less degree to the health of persons constantly traversing the highway.

It, therefore, appears that the benefits of the reclamation of this swamp would be enjoyed both by the town at large and by the owners of the swamp and adjacent property. Since the benefits are thus distributed it would be equitable that the cost of constructing and maintaining this work should be distributed between the town and the private owners in proportion to the benefits received.

It would seem probable that the execution of the work and the distributions of the cost of this drainage could best be accomplished by a commission appointed by the court under the General Drainage Act. I, therefore, recommend that the Board declare the present condition of the marsh in the town of Westchester between the property of the estate of William Watson and Clason's Point a nuisance, and recommend that its drainage be secured by those interested by an appeal to the courts under the General Drainage Act, chapter 888 of the Laws of 1869, and its amendments.

Very respectfully yours,
JAMES T. GARDINER,
Consulting Engineer.

At a meeting of the State Board of Health on 24th of September, at Albany, the above report was presented, and on motion was adopted by the Board, its recommendations approved, and the swamp in question was declared to be a nuisance and its drainage recommended, as set forth in the report.

ALFRED L. CARROLL, M. D.,
Secretary.

ALBANY, *October* 2, 1885.

To F. A. WATSON *and others, petitioners*, 99 *Franklin St., New York City:*

GENTLEMEN — In response to your petition, examination has been made of the swamp between the property of William Watson and Clason's Point, and the result of such examination with recommendations for remedying have been reported to the Board and approved by it. A copy of the report and recommendations so approved is herewith inclosed with the hope that you will be successful in securing the abatement of the nuisance by the methods suggested.

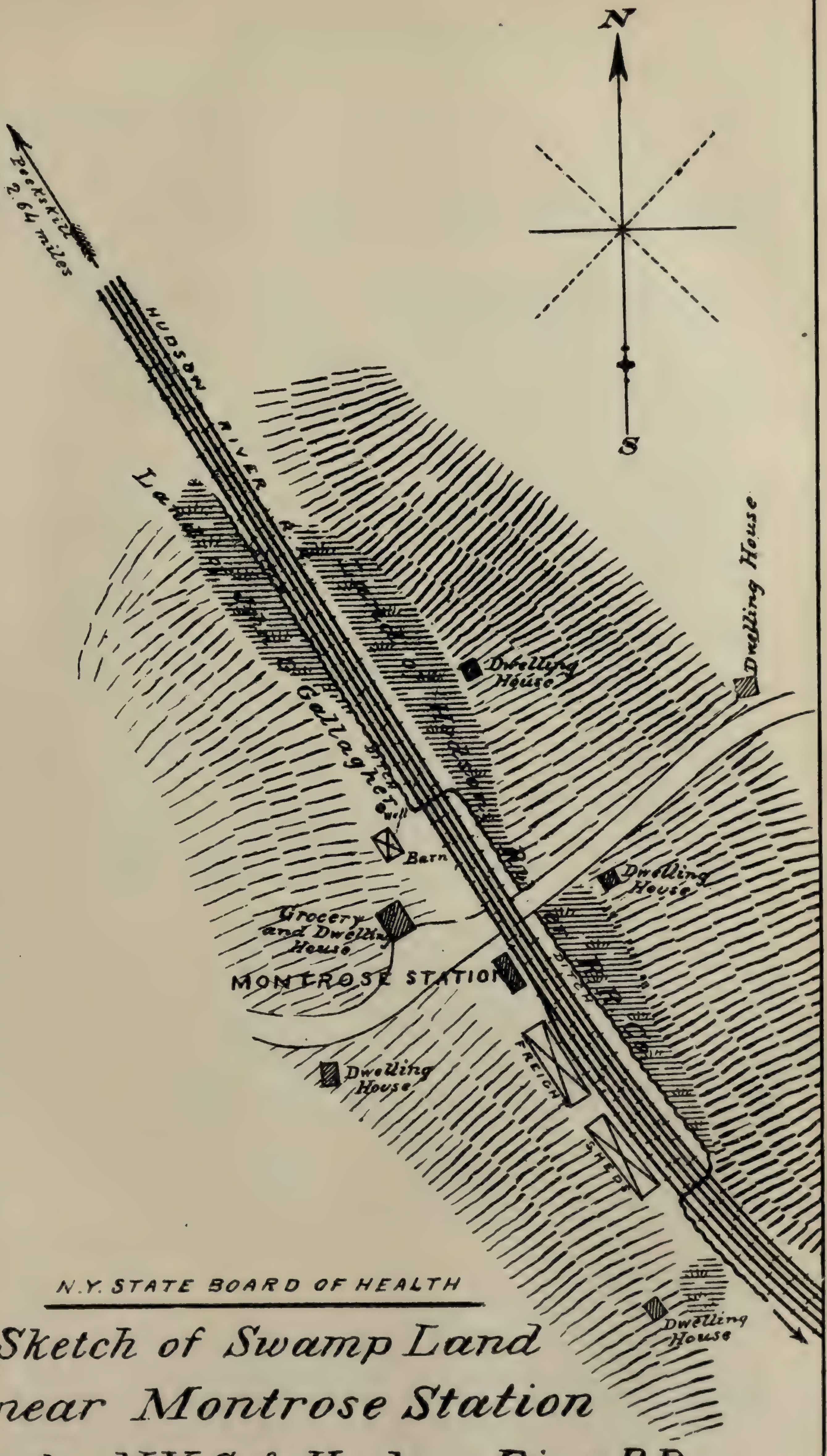
Very respectfully yours.
ALFRED L. CARROLL, M. D.,
Secretary.

REPORT UPON A NUISANCE OCCASIONED BY SWAMP LANDS AT MONTROSE STATION, WESTCHESTER COUNTY.

To the Secretary of the State Board of Health;

SIR — In accordance with instructions received from the State Board of Health, I have examined into the causes of complaint that have recently been the subject of communication to the State Board of Health, on the part of the local board of health of the township of Cortlandt, Westchester county. My report relative to the complaint is herewith submitted:

In the immediate vicinity of Montrose Station, on the New York Central and Hudson River railroad, the railroad passes through a small swamp lying between rocky hills. This swamp is said to have



N.Y. STATE BOARD OF HEALTH

Sketch of Swamp Land
near Montrose Station
on the N.Y.C. & Hudson River R.R.

WEED, PARSONS & CO., PHOTO-LITH

occasioned trouble by causing a settling of the track, the indications being, therefore, that it is of some depth.

That part of the swamp lying to the east of the railroad, and covering perhaps a little over an acre, is said to be the property of the railroad company, while the portion on the west side of the railroad, covering about three-quarters of an acre, is owned by John G. Gallagher.

The swamp land is partly drained by a ditch running along the railroad tracks, and crossing them twice through open sluice-ways, with wooden sides. Neither the ditches or sluice-ways are of sufficient depth to drain the swamps with any degree of thoroughness, but they probably remove the large accumulations of water in spring and during heavy rains.

Swamps of the character of the one mentioned are quite common in the neighborhood, and it is the testimony of the health officer that malarious complaints, which are widely prevalent, are often attributed to the exhalations from the swamps. The conviction that these wet and marshy lands are naturally the causes of malaria is strengthened by the fact that there was formerly a large swamp near Verplanck's Point, in the near neighborhood, which has been converted into a pond by damming, and malarious complaints which were general near its borders have nearly ceased since the land has been entirely flooded.

Within four or five hundred feet of the swamps at Montrose Station there are at least six dwelling-houses, with from twenty to thirty inmates; it was stated by the health officer that malarious complaints had been known to occur in all of these houses, and that their proximity to the wet lands was supposed to be the cause of the illness.

It may be fairly assumed, therefore, that the swamps in question are a nuisance, and in their present condition are detrimental to the public health. By deepening the ditches and sluice-ways to a suitable extent, or by partly filling the swamps, it is probable that complaints of a malarious nature will be less frequent. It would, therefore, seem proper for those interested to take such steps as may be necessary, acting under the general drainage law of the State, to secure the thorough drainage or reclamation of the swamps that are the subject of complaint.

Very respectfully yours,

HORACE ANDREWS, JR., *C. E.*

ALBANY, *May* 5, 1885.

ALBANY, *August* 20, 1885.

To the President of the Board of Health, Rhinebeck, N. Y.:

SIR — The accompanying petition, signed by a number of residents of your village, is received at this office. To permit the renewal of a nuisance officially condemned and ordered to be abated but two years ago, as shown by the records of your board, is a procedure calculated to bring discredit upon sanitary administration, and, if the facts be as represented by the petitioners, to endanger the health of your village, where soil saturation has long been a serious evil.

You are, therefore, requested, under the provisions of section 3 of chapter 270 of the Laws of 1885, to convene your board forthwith, and take measures to prevent the flooding of land which has been drained expressly for sanitary reasons.

ALFRED L. CARROLL, M. D.,
Secretary.

To the Board of Health of the State of New York:

We, the undersigned residents of the village of Rhinebeck, respectfully petition the Board of Health of the State of New York to take notice of and prohibit the creation of a nuisance and an injury to the health of this village and town, to-wit:

That on or about the 8th day of May, 1883, the board of health of the village of Rhinebeck, having, on the petition of a number of the inhabitants, investigated the condition of the property known as the mill-pond, passed the following resolution:

"*Resolved*, That the health officer be directed to serve on Mrs. Alice Huntington, the owner thereof, an order requiring her to effectually remove the mill-dam within thirty days from the receipt thereof, and to ditch and drain the marshy places as soon as practicable."

That in pursuance of said order, given under said resolution, the owner of said dam removed the same and caused the said marshy places to be ditched and drained in conjunction with another owner of land, formerly covered by water.

That the present board of health of this village have given permission to the owner of an ice-house, adjoining this land, to erect a dam, and that said intended dam is about being erected.

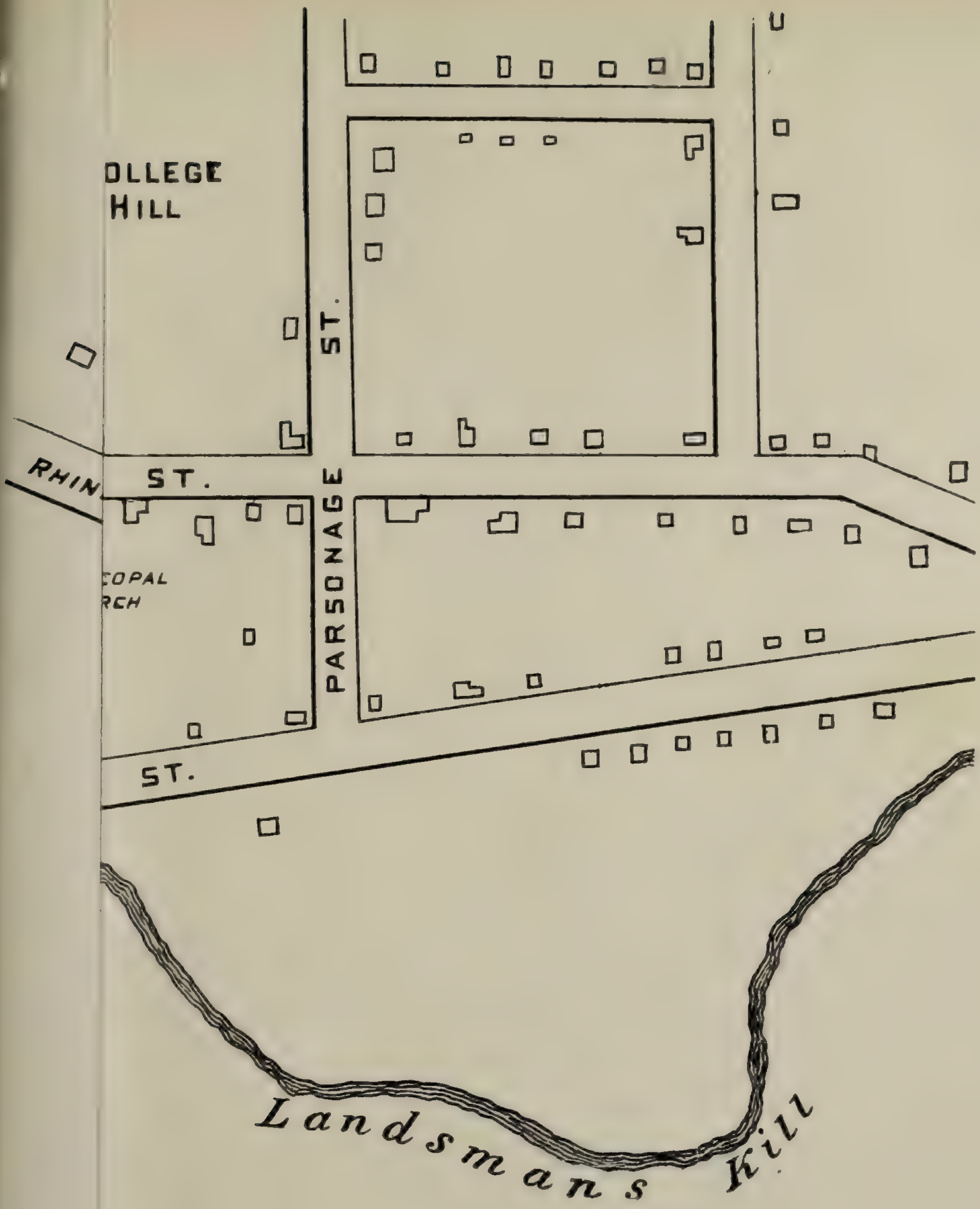
That said dam will restore the nuisance that formerly existed and be detrimental to the health of our citizens. We, therefore, pray that your honorable Board will investigate and examine into our complaint, and give such order and direction that to your Board may seem just and proper.

Dated RHINEBECK, *August* 19, 1885.

ALBANY, *September* 10, 1885.

F. M. SMITH, Esq., *President of the Board of Health, Rhinebeck, N. Y.:*

DEAR SIR — I transmit, for your information, a copy of a report on the condition of the old mill-pond by Inspector Andrews, who corroborates the conclusions of your board as regards the precautions to be observed in the reconstruction and maintenance of the dam, and whose recommendations will be of practical service in carrying out the resolutions which you have wisely adopted.



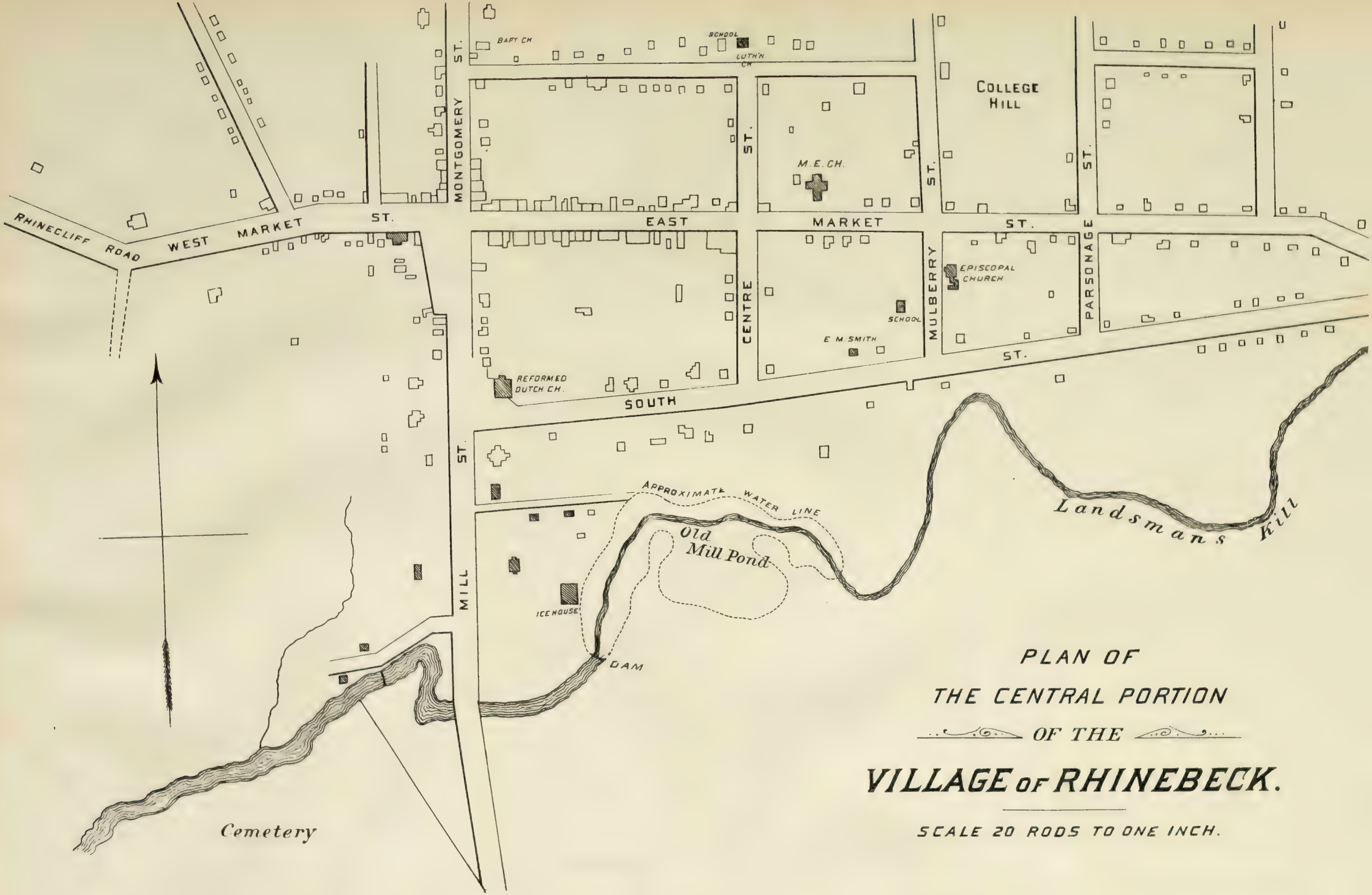
PLAN OF

CENTRAL PORTION

OF THE

E OF RHINEBECK.

20 RODS TO ONE INCH.



PLAN OF
THE CENTRAL PORTION
OF THE
VILLAGE OF RHINEBECK.

SCALE 20 RODS TO ONE INCH.

The greatest danger to health undoubtedly arises from the alternate flooding and exposure of land so situated, and it is to be hoped that your prohibition against drawing down the water will be rigorously sustained. With a minimum influx of nearly 200,000 gallons *per diem*, it seems evident that by following the suggestions of Mr. Andrews the pond can be kept at a nearly permanent level in all seasons and serious peril thereby avoided.

Faithfully yours,

ALFRED L. CARROLL, M. D.,
Secretary.

REPORT CONCERNING THE OLD MILL-POND AT RHINEBECK, DUTCHESS COUNTY.

To the Secretary of the State Board of Health:

SIR — In accordance with your request, on the 7th of September, I made an examination of the swampy land covering the site of the old mill-pond, at Rhinebeck, Dutchess county, and herewith submit my report, with accompanying plan of a portion of the village of Rhinebeck.

A stream, called "Landsman's Kill," flowing through Rhinebeck, has a considerable water-shed and a somewhat rapid descent, so that at various available places it has been dammed for manufacturing purposes. At the present time, however, many of these water powers have been abandoned, although not from any insufficiency of water.

The old mill-pond in the village of Rhinebeck has been dry, except in the late fall, winter and spring, for a number of years, and its bed is now swampy and covered, for the most part, with a rank growth of weeds. The dam at this pond has now been re-erected in an apparently substantial manner, and it is proposed to again flood the land, as in former times.

The flow of "Landsman's Kill," at the time of my visit, was about ninety gallons per second, by a rough measurement, but, according to the testimony of residents, in times of drought it may be diminished to about one-quarter of this, or twenty-two and one-half gallons per second. In a pond, covering about six acres on the land of Mr. George Miller, several miles further up stream, on the day of my visit, the water was flowing rapidly over the crest of the dam for a width of nearly twenty-five feet and to the depth of three inches. It is stated that in the driest seasons the water still flows over the crest of the dam to the depth of one-half an inch on the entire length of coping.

The area of the mill-pond at Rhinebeck, when again flooded, would be, perhaps, four and a half acres, and the water would be quite shallow in places, not averaging over four or five feet in depth over the whole pond. It would, therefore, seem that Landsman's Kill supplies an abundance of water to keep the pond full, even in the driest weather, if it is not drawn down for manufacturing purposes, and sufficient to renew the entire volume of water often enough to prevent stagnation.

It would be very difficult to drain the swampy land in the bed of the mill-pond, in an effective manner, without deepening the bed of the creek. As the creek flows over rock in places, such deepening would be very expensive. At present the old-mill pond would seem to be in a very bad condition for sanitary reasons; the land is alternately flooded and dried, and, as before stated, its thorough drainage would be a difficult task. The pond could be kept flooded to a very nearly uniform level with proper precautions. The width of coping at the overflow on the crest of the dam should be about twenty feet, and ample provision should be made for the escape of the waters of freshets over a much greater width of coping. If gates are left in the dam, to draw the water down when necessary, they should be well secured from being improperly used, and they should never be used except in a case of necessity, with the knowledge and consent of the board of health. It would be essential, moreover, that the water should not be drawn down for manufacturing purposes, but that only the overflow from the crest of the dam should be used.

Most of the vegetation growing on the old bed of the mill-pond could be cut down and burnt off before water was admitted, while that which would be left, being constantly submerged, would not be objectionable.

If either the entire flooding of the old bed of the mill-pond or its thorough drainage is to be attempted, the former would seem the more practicable, for the land can be kept submerged to a constant level with much greater ease than it can be drained.

Careful supervision would have to be exercised if a number of ditches were to be kept in good order over an area of several acres; while it would be at once apparent if the water were being improperly used so as to cause fluctuations of level in case the dam should be again maintained.

Very respectfully yours,

HORACE ANDREWS, JR., *C. E.*

ALBANY, *September* 9, 1885.

REPORT ON SANITARY MEASURES FOR GOUVERNEUR.

To the Committee on Drainage, Sewerage and Topography:

Appeal having been made by prominent citizens of Gouverneur to the State Board of Health to investigate the prevalence of dipththeria, which was claimed to be epidemic in that vicinity, Dr. F. C. Curtis of this Board visited Gouverneur on the 4th of December, and investigated the sanitary condition of the village, and the physical conditions which might have a bearing upon the health of the people. His report has been made to the sanitary committee and by it referred to the committee on drainage, sewerage and topography. Since it is evident from Dr. Curtis' report that the question involved is one of drainage and water supply, Dr. Curtis' findings and the whole question have been referred to me. I had intended to make a personal examination of the ground, but after examining a map of the place and a topographical view brought by Dr. Curtis, and after consultation with him I find myself in possession of enough facts to warrant a conclusion as to the general outlines of the sanitary difficulties and of the remedies to be applied. A detailed statement of the methods for remedying the evils found is perhaps not necessary until the people decide that they will remove the insanitary conditions of the place. An examination for a detailed report, especially on the question of water supply, could not properly be made at this season of the year. The object of the present report will, therefore, be to point out the general character of the sanitary improvements needed, without undertaking to discuss the details of the plans.

REPORT.

Modern science has demonstrated beyond question that man's physical life is governed by laws, and that the breach of these laws is surely followed by consequences which, in themselves, are often a terrible punishment to the law breaker. The laws which govern man's life exist and work out their consequences regardless of what we think about them. We may believe or disbelieve their existence; we may shut our eyes and say that we will continue to do as our fathers did before us, and not recognize the discoveries of modern science and live on as if there were no sanitary laws; but many of us forget that these laws go on working out their direful consequences regardless of our belief or disbelief. The proper attitude of mind for all of us is to admit that our physical life is absolutely governed by laws, and carefully endeavor to find out what these laws are. Some have been discovered, some are partly understood, many are yet unknown.

Among those laws of life which may be considered to be absolutely known is the one which most affects the health of the people of Gouverneur, and this is the principle that *soil saturation, combined with filth under and around human dwellings, invariably affects in a serious manner the health of a large portion of the people exposed to such conditions.* This hygienic law has been proved by observation and statistics in so many localities and in so many countries that it is no longer open to discussion.

Accurate vital statistics taken in England before the drainage of cities and villages have been carefully compared with the statistics of disease taken after drainage works had been executed. The comparison invariably showed an enormous decrease in certain classes of disease, these being principally the zymotic diseases and consumption. In Massachusetts the careful researches of Dr. Bowditch demonstrated the serious effects of living over saturated soil in that State. In Gouverneur, Dr. Curtis found the sub-soil waters to be within two feet of the surface of the ground through a large part of the village. Of course the cellars are damp or contain standing water in many places. This is quite similar to the condition of a large portion of the city of Ogdensburg which I examined last fall. Much of the filth in the privy vaults and cess-pools, and that thrown upon the ground in the yards and streets is rapidly dissolved and passes downward into the ground water. The soil of Gouverneur is, therefore, saturated with dilute sewage which is flowing into the wells and being carried into the cellars by percolation. This dilute sewage is being drunk from the wells by a large portion of the people of the village. It also percolates into the cellars, and the emanations from it are thence carried upward by the warm currents of the house to the living apartments above. These emanations of moisture and filth undermine the resisting power of the constitution, and often carry with them the fatal germs of specific disease.

The soil of a large part of Gouverneur is saturated to within two or three feet of the surface with filthy moisture, which is being drunk and breathed by the people. Specimens of this water have been examined biologically and also tested for chlorine. The water swarms with micro-organisms, and the samples tested showed a large percentage of chlorine, undoubtedly derived from sewage. The investigations of Dr. Curtis as to the prevalent diseases show how seriously the health of Gouverneur is affected by these conditions. The death-rate in this small community is already twenty per thousand. *Thirty-eight* per cent of the total deaths are from zymotic diseases. Fifty per cent of the total deaths are from zymotic diseases and consumption. The percentage of deaths from cerebro-spinal meningitis is seven times what it is in the rest of the State. This death-rate from zymotic disease is almost unparalleled in this State. Even in New York city, with its crowded tenement population, the percentage of deaths from the zymotic diseases, to the total number of deaths, is only 28.4 per cent, while in some cities the percentage of deaths from zymotic disease is from 14 to 16. It is not too much to say that during the last year and a half at least one-quarter of the deaths in Gouverneur could have been prevented by proper sanitary precautions. These needless deaths are the distinct result of the violation of absolute law.

It thus appears from Dr. Curtis' report that the mortality from preventable diseases in Gouverneur for the last year and a half has been most excessive, and the nature of the diseases, together with the conditions observed, prove that the mortality is principally due to the saturation of the soil with polluted water. In view of these facts I will briefly state the outline of the measures which will most effectually remedy the sanitary evils from which the people of Gouverneur are suffering.

It is to be noted at the outset that the topographical position of the village is such that storm water is rapidly drained from it through the several streamlets and ravines that empty into the river. Nature has provided ample means for the surface drainage of the place. The saturation of the soil comes, as it does in Ogdensburg, from an abundant sub-soil or ground water, kept comparatively near the surface by the character of the underlying formation and doubtless flowing in general toward the Oswegatchie river, in whose valley both Gouverneur and Ogdensburg are situated. In addition to this the soil in the village is made the receptacle of all the sewage and filth of three thousand people. The sanitary difficulties of the village arise from the soil water and sewage, the sewage being the animal and vegetable waste produced in the town. To insure healthfulness the ground water must be lowered and the sewage removed from the place. There is but one method of lowering the ground water, and that is by artificial drainage of the subsoil, and the only way to get rid of sewage is by building sewers.

The village, as I have stated, is fortunately so situated that it need make no provision for storm water in building sewers. *They should be made to carry sewage only.* A system of glazed-pipe sewers from six to eight inches in diameter will easily carry off all of the sewage of the place and deliver it at a proper outfall; but these sewers must be of the best glazed pipe, with joints as tight as can be made, and no storm water should be allowed to enter them, nor any sub-soil water; nor should they be connected in any way with the cellars. They should have automatic flush-tanks at all of the dead ends to secure a daily flushing and cleaning of the sewer pipes. In the trenches with the sewers should be laid agricultural drain tile, branches from which should be carried up to the houses and under the floors of the cellars. These drain tile, if properly laid, will reduce the level of the sub-soil water to the level of the drain. They should be laid at least six feet below the surface. The sub-soil drains should have no connection with the sewers. Their part is simply to carry off sub-soil waters and they may be given outlet into the ravines or brooklets which run through the village, or into the river. While laid in the same trenches with the sewer pipes, they need not be one continuous system, all flowing toward a common outlet, but may find outlet at any convenient point and pass off with the surface waters.

Accustomed as people are to large sewers and large pipes it is hard for those who are not familiar with the working of small-pipe sewers to realize how thoroughly they do their work and how great the sanitary advantages are of having pipes as small as possible.

Dr. Curtis called my attention to a proposed plan of arching over the brook which runs through the village and running lateral sewers into this as a main sewer. The project is to be *emphatically condemned on sanitary grounds* as well as economical. It will be a costly nuisance. Such a sewer must be built large enough to carry the flow of the brook in times of excessive flooding. It will, therefore, have to be perhaps fifty times larger than is necessary to carry the flow of the sewage alone; for usually the sewage of a population like that of Gouverneur can be discharged through an eight-inch pipe. In such a brook as that which runs through Gouverneur the flow of water is small in summer and often insufficient to carry the solid matters that would come down from lateral sewers. Accumulations of solid matter would take place where the lateral sewers enter the brook, and these being covered from the sun and air would putrefy rapidly and sometimes cause offensive odors and always produce conditions dangerous to health and life. The sewer being built of rough stone, the cracks between the stones would become receptacles for filth when floods come and wash down the accumulations of solid sewage from the mouths of the lateral sewers. This plan of making a main sewer out of a brook has unfortunately been tried in many of our villages. I have examined a number of such structures and have always found them in an unsanitary condition. Nature has provided the brook to drain off the surface water falling upon its water-shed. So far as I can learn it is answering its purpose admirably and is clean and healthful. It is much better to leave it open to the purifying influence of the sun and air and keep the sewage out of it. Probably also the cost of the sewerage system which should include the arching over of this brook would be greater than that of a system finding its outfall through sewer pipe of the proper size. The first needs, therefore, of Gouverneur are to get rid of its sewage by a system of small-pipe sewers carrying sewage only, kept clean and wholesome by automatic flush-tanks, and to get rid of its excessive sub-soil water by bringing it to a level of at least six feet below the surface by a system of agricultural drain tile laid in the trenches with the sewers, with branches extending to the houses or under the cellars. Such a system of sewerage and drainage can now be carried out at a cost very much less than it could a few years ago. Richfield Springs and several other villages have constructed similar works during the past year, and Schenectady has laid nearly twelve miles of small-pipe sewers at a very moderate cost. The result of the carrying out of these recommendations at Gouverneur would be to free the village from accumulations of filth and dry the soil; but that would not render the well water safe to drink. Even with the best systems of sewerage and drainage where a locality becomes as thickly populated as Gouverneur it is impossible to prevent the constant contamination of the wells. A proper public water supply should, therefore, be provided for potable purposes. The present supply does not seem to have the confidence of the people, and it is not clear to me that it deserves it. The water is taken from the river about opposite the center of the village. For a quarter of a mile above the in-take the surface drainage of a populous region enters the stream, and then the principal cemetery is situated immediately upon the banks of the river. It is probable that the water supply of the village should be taken from the river at least one-half a mile further up. Whether or not the water of the Oswegatchie is a pure and wholesome water it would not be possible to determine without examination of that stream in time of low water as well as in the spring and autumn.

The brown color of the water excites a prejudice against it which may be utterly unfounded on any sanitary grounds. The question as to the wholesomeness of the Oswegatchie as a drinking water could undoubtedly be determined by investigations carried through one season.

In view of all the conditions described, I, therefore, advise the committee to recommend to the citizens of Gouverneur the construction of a system of separate sewers and sub-soil drains for the removal of sub-soil water and sewage, the leaving open of the natural channels for the surface drainage of storm water, and the securing of a supply of potable water that shall be wholesome and command the confidence of the people. I recommend to the committee to advise the citizens that unless these measures are taken there is every probability of the continuance of an abnormally high death-rate from zymotic diseases, causing needless sacrifice of perhaps fifteen or twenty lives yearly.

Respectfully yours,

JAMES T. GARDINER,

Consulting Engineer.

In view of the statement of Dr. F. C. Curtis, sent by the State Board of Health to examine the sanitary condition of the village of Gouverneur, in the county of St. Lawrence, and the examination of its conditions, James T. Gardiner, consulting engineer of the Board, confirming the causes of the large and extraordinary mortality in the village, which causes are believed to be chiefly "soil saturation combined with filth under and around human dwellings," the use of unwholesome water, your committee recommend first of all the removal of the causes named in these reports. They ought to be and are within the present legal control of the authorities of the village. Particularized as they now are it becomes the duty of the citizens and the authorities to begin and complete the work of improvement herein specified. Proper drainage and sewerage are the first to be provided, and the health and comfort of 3,000 people depend upon providing both as speedily as possible. What ought to be done and the reasons for the kind of work recommended, and what ought not to be done and the reasons therefor, are fully set forth in the report of the consulting engineer. The death-rate it is believed may be reduced at least one-quarter by the timely and practical prevention of the diseases named which are causing so many deaths; the committee, therefore, hereby concur in the statement of Dr. Curtis as to the causes of mortality in the village of Gouverneur and in the recommendations of the consulting engineer, Mr. Gardiner, as to the needed drainage, sewerage and the supply of pure water.

ERASTUS BROOKS,

Chairman of the Committee on Drainage, Sewerage and Topography.

At a special meeting of the State Board of Health, on the 14th January, 1886, the report of the sanitary committee on Gouverneur was presented, and on motion it was received and its recommendations adopted.

ALFRED L. CARROLL, M. D.,
January 14, 1886. *Secretary.*

SEWER NUISANCE AT ALBION, N. Y.

ALBION, N. Y., *June* 9, 1885.

To Dr. E. M. MOORE, *Rochester, N. Y., President of the Stat*
Board of Health:

We, the undersigned, respectfully wish to call your attention t the outlet of the main sewers of this village. The waters at their mouths are conveyed for quite a distance through open and clogged ditches, emptying into a race, when they could be covered and run under said race into a creek with several feet more fall. They do not now have sufficient fall to carry off the sediment which collects at every shower along the whole line of sewers. Bottom of said sewers is covered with a nasty black slime, which is very offensive when exposed to the air. A good number of citizens, residing in the vicinity of these outlets, petitioned the local board of health to abate the nuisance. The health officer of the board pronounced it a nuisance and claimed it should be abated. He also claimed that this village is in a very unhealthy condition, with many cases of malarial fever and ague as the result of the bad sewerage of the village. He labored with the other members of the board for an abatement of the nuisance regardless of cost, but they ignored him entirely on the ground of dollars and cents.

We respectfully ask an inspection by your honorable Board. Would be pleased to have a member of your Board go over the ground, in company with our health officer, and see if something cannot be done for our relief before the warm weather begins. Please find inclosed stamp for reply to G. H. Ashby, who will cheerfully reply to any questions you may see fit to ask in regard to the matter.

(Signed), G. H. ASHBY,
R. E. HOWARD,
GEORGE W. KING,
W. T. DORRANCE,
WILLIAM CAMERON,
PETER McGOWAN.

Inclosed find petition, which was handed to local board.

REPORT OF ENGINEER.

To the Chairman of the Committee on Drainage, Sewerage and Topography:

SIR — In accordance with your instructions I have recently examined the conditions at Albion that have been the cause of complaint by certain residents, and herewith submit my report.

The village of Albion lies on both sides of the Erie canal, the main portion being on the southern side, the canal running nearly east at this place. The natural drainage of the country is to the northward, the slopes being very gentle, but in most places sufficient to secure good drainage.

All the sewerage of that portion of the village lying on the south side of the canal must necessarily discharge into it or be carried under it. The State has provided ample culverts for carrying the sewage and very much of the storm water under the canal.

There is a sewer running down Main street in a northerly direction, to the canal, passing under the latter and continuing as a roughly-built sewer of stone, for a distance of about one-half a mile beyond the canal. The sewer empties into a mill-race which flows along the south side of Caroline street for about 1,800 feet.

It is stated that the stone sewer on the north side of the canal was built by the State for its entire length, and that the owner of the mill-race preferred to have it discharge into the race, instead of passing under it and discharging into a branch of Sandy creek, about 200 feet distant and six feet below the race.

The nuisance complained of does not arise, or only in small part, from filthy discharges into the mill-race, but from the setting back of the water of the race up the sewer, and the flooding of cellars and low places.

There is undoubtedly a discharge of house drainage into the Main street sewer, but as there is no public water supply the solid matters of the sewage are for the most part deposited during the long passage through the primitive sewer, and the effluent is clear, unobjectionable to the sight, and without much odor.

The mill-race spoken of is supplied largely from waste water of the canal, and in dry times the adjacent creek receives almost its entire supply from the same source. The average amount of water flowing in the mill-race is nearly as great as that in the creek.

The mill-race is subject to daily fluctuations of level of six inches or more, besides more considerable changes of level, depending upon the season of the year. These fluctuations must have the effect of changing the level of the ground water in the immediate vicinity, and they are not improbably the cause of malaria in the adjoining houses, some twelve or fifteen in number.

Suggestions as to Remedies.

The sewer mentioned as a cause of complaint could easily be led under the mill-race into the creek, and as a temporary and inexpensive means of relief this would be a desirable improvement. The additional supply of water brought into the mill-race by the sewer is too small in amount to be of any value to the mill-owner.

The purchase of the milling privilege, which is of much less value than formerly, with the entire abandonment of the race, would be a great sanitary improvement, and would at the same time enhance the value of property on the south side of Caroline street.

The entire village of Albion is much in need of a good system of sewers, for removing house waste and excrementary matters. No system can be recommended without careful surveys, and precautions must be taken to secure a proper outlet for any system adopted. Unpurified sewage discharged into the small brooks in the vicinity would undoubtedly occasion a nuisance.

It is not apparent that the State is in any manner responsible for the conditions that are the present cause of complaint. A temporary remedy is very simple, as pointed out, and is entirely within the powers of the village.

The more serious sanitary defects are the absence of proper sewers and the existence of the mill-race.

Very respectfully yours,

HORACE ANDREWS, *C. E.*

ALBANY, N. Y., *December* 9, 1885.

In accordance with the following report from Horace Andrews, civil engineer, employed by the State Board of Health to examine the mill-race and main sewer in the village of Albion, in answer to a petition laid before the Board at their meeting held in New York city, November 16, 1885, the committee present the following conclusions as the result of a careful examination of the evil complained of by citizens of Albion. The proper method and agencies to remove the evils named rests with the local authorities. In the judgment of your committee after the examinations now made, the State Board is not authorized to advise any other mode of relief than one wholly within the power and duty of the village authorities of Albion. The State is no way responsible for the conditions complained of.

ERASTUS BROOKS,

Chairman of the Committee on Sewerage, Drainage and Topography.

STATEN ISLAND, *December* 18, 1885.

REPORT ON THE SEWERAGE AND DRAINAGE OF MIDDLETOWN.

To the Committee on Drainage, Sewerage and Topography of the State Board of Health:

GENTLEMEN —A communication having been received from Hon. E. M. Madden on behalf of the citizens of Middletown requesting the State Board of Health to send an engineer to make a sanitary examination of that village and advise as to a general course of procedure with regard to sewerage and drainage, I proceeded to Middletown on the 19th inst., in accordance with instructions from the Board, and beg to make the following report:

TOPOGRAPHY.

The village of Middletown, having a population of some ten thousand people, is situated on a high rolling country, in Orange county, with attractive surroundings and with a climate undoubtedly healthful. The village itself is sufficiently hilly to give diversity to its streets and to afford admirable natural opportunities for drainage. The small stream which flows through the lower part has several branches which afford good natural channels for surface drainage. The sidewalks of the village are in an unusually good condition, being flagged and having well-curbed and paved gutters. The attention which has been paid to the condition of the streets has secured excellent surface drainage throughout the village. The soil of a small district is gravelly but the greater part is clay, very hard and containing many boulders. This soil is to be found both in the flatter parts of the village and on some of the steeper hillsides. As I have said, the whole village, both in its lower parts and on its steeper hillsides, is admirably adapted to a complete and thorough system of drainage and sewerage. The obstacles to be overcome are unusually small.

EXISTING SEWERS.

To overcome the difficulties which have arisen from the washing of the steeper streets in heavy rain, certain large storm-water sewers have been built and have effectually answered their purpose; but these sewers, in a small portion of the village which they cover, are also used for carrying away sewage. They, however, reach only a very few of the streets. I was unable to ascertain their total length; but they amount to a small fraction of the whole village. There appear to be some ten miles of streets in the village which either require sewers now or will at a very early day.

The present system of storm-water sewers empties into the creek which drains the surface of the village at a point below which there is a large population living close to the banks of the stream. I examined the condition of the stream and found that the bed both under the water and that part which is now dry is thickly coated with decomposing filth; it is in fact an open sewer.

NUISANCES.

The condition of the main creek is in. my judgment a nuisance endangering the health of the people who reside in the neighborhood of the stream, and the same may be said of the other branches of the creek which flow through the village. House drains are everywhere running into them and carrying not only house slops but human excrement; they are already fouled to such a degree that the smell from them is at times very strong. I think the condition of all these streams is such as to make them public nuisances, dangerous to the life and health of the people who live along them. But as there are no sewers through much of the town, and as cesspools are likely to fill and overflow when made in a hard-clay soil, it is almost impossible for the people to dispose of their house wastes in a sanitary manner.

The fault is not in the habits and desires of the people, for the condition of the premises, even throughout the suburbs of the village, shows the desire of the people to keep their surroundings in as good a condition as possible. Were the streets of the village sewered, even in the suburbs, a very large proportion of the people would at once make connection with their houses.

SEWAGE DISPOSAL.

The stream which drains the surface of Middletown and runs from there several miles down to the Wallkill is so small that it will not be possible to make of it the outfall for the sewerage of Middletown, without a partial purification of the sewage before pouring it into the stream. If crude sewage is turned into the brook a nuisance will undoubtedly be created, the results of which cannot be foreseen. It will in my judgment be perfectly practicable to purify the sewage of the village in precipitation tanks for a reasonable sum, and turn the effluent into the creek without creating a nuisance. These works can be so arranged as to purify the sewage to any extent which experience may prove to be necessary under the circumstances. For two reasons it is specially important that the filth of Middletown should not go into the soil about the dwellings: first, that a very great proportion of the people during the summer season are using water from surface wells. The level of the water in these is seldom over five or six feet below the surface of the ground. They are, therefore, peculiarly liable to pollution. The city has a public water supply, but a great number of the people prefer well water on account of its coolness in summer and on account of the supposed difference in taste between it and the public water supply.

The use of surface wells is likely to speedily increase when proper sewers and drains are made through the village.

Another serious nuisance from polluting the soil is found in the fact that in the north and north-eastern part of the village the ground water rises to the floors of the cellars and very often enters them. If this ground water is seriously polluted, the air of the cellars is contaminated to a dangerous degree. Filth is bad for human health, and moisture is bad, but wet filth is one of the most dangerous conditions to which human life can be exposed.

The president of the village, Mr. J. N. Pronk, showed me through a large part of the village. We visited some premises where the ground water rises so high as to take into solution the contents of the privies. The people in this region were drinking water from surface wells, and had wet cellars. In fact, it seemed from the examination I made, and from the information I received from the president of the village, that from one-half to three-fourths of the inhabitants of the village are troubled with wet cellars.

Out of one hundred and sixty-three deaths which were reported to the State Board of Health from Middletown during the last ten months, twenty-five are from consumption. I cannot but believe that many of these deaths are due to the people living over saturated soils. Important as it is to provide for the removal of the filth of

Middletown, it is equally important to drain the sub-soil water down to a level which shall secure the dryness of all cellars; and this seems perfectly practicable. The death-rate of the village is moderate, doubtless owing to its salubrious situation; but many of the deaths which result from soil saturation or filth poisoning can doubtless be prevented, and the village made unusually healthful.

In general the wetness of the cellars, arising not from accumulations of storm water, but from a high level of the ground water and accumulations of filth in the soil, contaminating the soil water and the ground-air, and thus polluting the air of the cellars and the water of the wells, seem to be the principal insanitary conditions of the village.

In one or two places storm water is occasioning some inconvenience by washing the streets where the hillsides are unusually steep. The difficulty, however, can be remedied at a small cost. As regards the present sewers, they are not in proper sanitary condition. On opening a man-hole in the main sewer, in company with the president of the village, I found the stench from it intolerable, and he informed me that it had been cleaned out within the last six months. In a distance of perhaps a thousand feet some twenty car-loads of filth were taken out from this sewer. They were brought to the man-holes in a wheelbarrow and hoisted out. I regret to say that the man who did the work is reported to have died in consequence. I did not wonder after the examination made of this single man-hole.

It is perfectly possible to greatly improve the condition of these large sewers by devices for flushing and ventilation; and this should most certainly be done, as their present condition is dangerous to the public health.

As regards the manufacturing wastes which now, to some extent, pollute the stream, they would, of course, be easily provided for if there was any general system of sewerage through the village.

PLAN FOR SEWERAGE AND DRAINAGE.

Recognizing the fact that the sewers which are already built will with very slight additions provide for the carrying off of storm water and surface drainage so as to prevent any danger to health or inconvenience from the washing of streets, the sanitary evils which are to be remedied in Middletown are two-fold; namely, the soil saturation, and the accumulations of filth.

There are three different methods of overcoming these difficulties; first, to expand the present system of combined sewers to take in the whole village. Second, to leave the existing sewers to take storm water alone, and to carry a separate system of small pipes for sewage only through the village, accompanied with a system of sub-soil drain tile to provide for the drainage of cellars and sub-soil. Third, to carry over the unsewered part of the village the separate system, and to utilize as part of it the sewers which have already been built, taking into the separate system the low-water flow of these sewers and excluding the heavy bodies of storm water which they carry in time of rain.

These plans will differ in cost and each has its own advantages and disadvantages. It is not possible to say without a careful survey what the relative cost and advantages will be ; but it would appear probable that the expansion of the combined system over the whole village would be far more expensive than the other two which have been named. The least costly would probably be the utilizing of what has already been done and the construction of the separate system through the unsewered part, making the plan, however, in such a way that if any street choose to lay down small pipe in place of the present large sewer, they could do so at their own option.

In my judgement the most satisfactory way for the citizens of Middletown would be to have surveys and estimates made for each of these plans, and a report setting forth their advantages and disadvantages. They could then determine which on the whole would be most satisfactory. As regards merely the sanitary side of the question, the investigations of the State Board of Health have shown that small sewers which can be constantly flushed by automatic means are very much easier to keep clean than large sewers, by which storm water is admitted. This is especially true in villages with unpaved streets, where the slopes are so steep that large amounts of gravel are washed into the sewers, making dams which hold back the sewage so that it putrifies and the sewers become merely prolonged cess-pools. This we find to be the condition of the large sewers in the village of Mt. Vernon, although they have a considerable slope, and it is doubtless the condition of the main sewer in Middletown, in the upper half of its course.

I do not mean to say that such a condition cannot be remedied ; but that the sewers which receive the wash of the streets in unpaved villages are far more difficult to keep clean than those which receive only house sewage and are so small that they can be thoroughly flushed every day without a large expenditure of water.

CONCLUSION.

I find that the people of Middletown are practically unanimous in their desire to have the village thoroughly sewered and drained, and the only question is, how it can best be done. Their experience has taught them that it would be far more economical for the property-owners if a definite plan is laid out, so that the assessment for sewer purposes on each property-owner can be determined once for all and the same property not be made to pay several times, on the theory that it was benefited by every sewer in its neighborhood, which has sometimes been the case, not only in Middletown, but in Albany, and every other city which is without a general system of sewerage.

My opinion is that a plan for the sewerage and drainage of Middletown could be devised which could be carried out as fast as the people desired for a total cost not to exceed $1.25 a running foot, which would be equivalent to an assessment of sixty-two and one-half cents a front foot on the property benefited. No piece of property should be assessed more than once. In view of the reasonable cost at which the sanitary evils which threaten the health of Middletown can be relieved, and in view of the condition of public sentiment, which prompts immediate action in this direction, I recommend that a topographical survey of the village should be made, including such data as are necessary to be taken into consideration for the sewerage and drainage of the place, with plans of present sewers; and that based on these surveys three preliminary plans be made, one for the extension of the combined system over the whole village; another for carrying the separate system over the whole village; and the third for carrying the separate system over the unsewered part of the village, taking into it the ordinary flow of the existing sewers; and that a report be made, setting forth the cost and the relative economical and sanitary advantages of these different plans; that these be laid before the proper authorities of Middletown, and, when they have decided which shall be adopted, that a working plan of that system be made so detailed that the work of construction can proceed at any time when the village is prepared to undertake it.

Very respectfully,
JAMES T. GARDINER,
Consulting Engineer.

To Hon. E. M. MADDEN *and other citizens of Middletown, N. Y.:*

The undersigned committee, to whom the appllication for advice regarding the sewerage of Middletown was referred with power by the State Board of Health, at its meeting on June 15th, respectfully makes the following report:

A sanitary examination was made under our direction on the 29th of June by Mr. James T. Gardiner, formerly a member of the State Board of Health, and now its consulting engineer.

The facts reported by him show that the health of Middletown is threatened over a large part of the village by saturated soil producing wet cellars and by ground water and ground air becoming polluted with filth from cess-pools and privies.

This pollution of the ground water undoubtedly affects the health of the people by contaminating the wells and the ground air about the dwellings. This ground air is sucked into the cellars by the heat of the houses, and rises through the dwellings. Especially is this true during the winter months when the surface of the ground is frozen and the cellar windows closed. The filth pollution is also carried into the cellars by percolation of the ground water.

It further appears that the brooks which take the surface drainage of the village have been converted into open sewers and that they are in a condition not only offensive but dangerous to life and health. The soil saturation appears to be due not to accumulations of storm water but to actual sub-soil water.

The topography of the village seems to admit of a thorough system of drainage and sewerage. Exactly what plan would be best to adopt is somewhat complicated by the existence of a partial system of combined sewers already constructed.

While the experience of this Board is that the separate system has, in cases like that of Middletown, very decided sanitary advantages, it will doubtless be more satisfactory to your citizens to know the relative cost and advantages and disadvantages of the various means by which your insanitary condition may be relieved.

The Board, therefore, advises you that drainage and sewerage are necessary to your village, and the construction of a proper system will doubtless improve the public health and lower the death-rate, although this is not at present high.

We approve of the recommendation of Mr. Gardiner that you should have made a survey and preliminary plans from which to determine the relative cost and advantages of the different methods of drainage and sewerage; and having chosen the general method of procedure, you should have made a careful working plan upon which all sewers could be constructed. In selecting a plan for final adoption it is to be hoped that, since the work is for a sanitary purpose, the plan will be chosen which is of the greatest sanitary advantage, irrespective of any small difference of cost. The experience of the board in the villages of this State has been that the least expensive system was generally best from a sanitary point of view.

ERASTUS BROOKS,
Chairman of the Committee on Drainage and Sewerage.

SEWERAGE OF WARSAW.

WARSAW, N. Y., *May* 22, 1885.

To the State Board of Health :

GENTLEMEN — We believe that a due regard for the health of our villages requires us to invoke the aid of the State Board of Health, to assist us in arriving at a practical solution of the perplexing question before us:

First. What are the best and most available means of correcting or modifying the deleterious influence of certain ditches that have long since partially assumed the character of sewers.

Second. What is the most feasible and best plan for establishing a proper system of sewerage for this village? The village of Warsaw contains a population of over 2,000 inhabitants and is situated in a deep valley running nearly north and south. The water-shed on either side of the valley is quite extensive, and although most of the water is carried off by brooks leading down numerous ravines, still a large amount finds its way to the level of the valley, by soaking through the soil — in many instances flooding cellars and saturating the soil with a surplus of water.

A large part of the village is situated on the comparatively level ground in the valley, and numerous cellars are subjected to inundations every spring. There are many cellars which are never dry during the year, and at the present there is no opportunity to drain them. The principal cause of perplexity, however, is an open ditch which was constructed more than thirty years ago for the purpose of carrying off surface water. It is located in the eastern part of the village, and runs diagonally across the slope of the hill. This ditch has gradually assumed the character of a sewer — in some instances sewerage from houses many rods distant being conducted to it, or directed toward low places that are eventually washed into it by rain storms. The current of the ditch is sluggish, and in the summer months the volume of water is small, sometimes ceasing to run and standing in small pools. In many instances, wells from which water is obtained for drinking purposes, also culinary uses, are situated within a few feet of it, and are *probably* more or less contaminated by it. Last summer several cases of fever (four we believe) occurred in families living near it, and our physician did not hesitate to attribute the cause to the condition of the ditch. The question naturally arises, why do not the local board of health condemn the ditch? *First.* There is no system of sewerage in the village to take the place of it. *Second.* There is no adequate sum of money available to make even a respectable beginning of such a system, unless it can be built for much less than any estimates that we have ever had. *Third.* If the people were compelled to make cess-pools the probability is that they would soon become as great a nuisance as the ditch. Last summer a public meeting was called to consider the question of sewerage and devise plans to abate the nuisance of this ditch or sewer. A committee was appointed to obtain estimates on the cost of building a main sewer. At an adjourned meeting they reported, but the estimates were so high that it was practically impossible to build it. We feel that we have no frivolous questions for your solution, and pray that you may send us a competent person to solve the question which we feel needs more experience and ability than we can command.

Very respectfully yours,

A. B. BISHOP, *President,*
L. L. CHAFFEE,
W. J. SERVICE,
FRANK WILSON,
CHAS. J. GARDNER,
J. W. KNAPP,
Town Board of Health.

J. W. H. SHIPLER,
Town Clerk.

D. E. MATTISON, M. D.,
Health Officer.

We unite with the local board of health in praying that their request may be granted.

J. P. RANDALL, *President,*
M. D. CHACE,
Z. Y. LUSK,
A. T. GAGE,
WM. BRISTOL,
Village Trustees.

ENGINEER'S REPORT.

HON. ERASTUS BROOKS, *Chairman of the Committee on Drainage, Sewerage and Topography:*

DEAR SIR — I have examined into the conditions that prevail in the village of Warsaw, the county seat of Wyoming county, in response to a petition from the town board of health and the village trustees, made on the 22d of May last, to the State Board of Health, and which was referred to me for investigation.

I have the honor to submit the following report:

SITUATION OF WARSAW.

The village of Warsaw, containing about 2,000 inhabitants, is situated upon Oatka creek, which runs at this place in a northerly direction. The sides of the valley, through which the creek flows, rise somewhat abruptly to a height of 200 feet or more. At the place where the village is situated the valley is nearly level for a width of about one-quarter of a mile on each side of Oatka creek; a short distance north of the village the level portion of the valley increases in width.

The main street of the village runs in a direction almost exactly north and south, and is a short distance east of Oatka creek, which it crosses, however, in the southern part of the village.

The principal portion of the village lies to the east of the creek, though quite a large number of residences are on its west side.

There are six or seven streets crossing Main street at right angles and running eastward up the hillside until an abrupt slope is reached, these streets also extend to the west as far as the creek, and one of them crosses it by means of a stone bridge, and passes up the steep westerly slope of the valley to the station of the Erie railway. There are also several streets on each side of the creek, running in a direction parallel to that of Main street.

The Erie railway, running along the hillside on the west, and the Rochester and Pittsburgh railway, on the east side of the valley, are both at a considerable elevation above Oatka creek. For convenience of railway transportation the numerous salt wells, which have been sunk during the past few years, are situated high above the bottom of the valley. The wells are of great depth, as much as 1,600 feet in one instance. Some 200 feet of boring would have been saved if railroad facilities had been found near the bottom of the valley.

SURFACE DRAINAGE.

In many places the water from rains and melting snows has worn deep ravines in the hillsides. The quantity of water flowing in some of these ravines is, at times, very considerable. To prevent a similar erosion in the lateral streets running east from Main street a ditch, now known as the "Corporation ditch," was dug many years ago. This ditch, throughout a part of its course, runs parallel to Main street and about 300 or 400 yards east of it, afterward it turns to the west, crossing Main street, and finally enters Oatka creek.

The "Corporation ditch" removes a large amount of surface water, and the ditches at the sides of the street suffice for the removal of the remainder, though they would probably perform their functions better in many places if they were kept free from grass, which grows in them to a large extent.

SUB-SOIL WATER.

On the west side of the valley there is much shale, lying in nearly horizontal strata, while lower down the hillsides there is considerable gravel. On the east side of the creek the soil is very generally of a gravelly nature, and there are indications that the bed of the creek has been at some previous time in a different position from its present one. In the more level parts of the village, water is met with at a depth of from five to twelve feet; on Main street it is generally found at a depth of eight feet. In many places the cellars are permanently wet, and are in a suitable condition to occasion sickness.

Striking proof of the great permeability of the sub-soil is met with in the western part of the village, where the waste water from one of the salt wells flows down a ravine, impregnating some of the wells in the vicinity with salt. One of the wells was examined by me and a sample of the water was obtained. This well was sixty feet from the water-course at its nearest point; but no water was flowing through the channel, which was quite dry in places for a long distance above the well. The water from the well in question seems rather more saline to the taste than ordinary sea water.

There is every reason to believe that the soil in the eastern part of the village is quite as porous as in the western portion, though there are no salt wells directly east of the village whose waste waters can permeate the sub-soil.

HOUSE DRAINAGE AND FILTH DISPOSAL.

Most of the houses are provided with privies of the ordinary and faulty construction. No effort is made to secure water-tight vaults or receptacles for excrementary matters. Along the course of the "Corporation ditch" many privies are built within a few feet of its banks; the ditch is said to be in general use for the drainage of sinks, etc.

There are in many places deposits of filth along the bed of the ditch; at some points the ditch is nearly dry from soakage and evaporation, while at others the flow from springs is received and the water becomes clearer. A sample of water obtained near the mouth of the ditch does not appear much more objectionable, as far as clearness is concerned, than that taken from a well which was shown me by the health officer.

A good water supply, taken from springs at a considerable elevation above the village, has been distributed throughout the thickly-settled portion of the village for several years.

The larger number of families are said to use well water in preference to that furnished by the water company, either because it is cooler and may be considered pleasanter to the taste, with carelessness, as regards danger of filth contamination, or because the well water can be more cheaply obtained than that furnished by the company.

UNSANITARY CONDITIONS.

There can be no question but that much of the liquid matter from house drainage finds its way into the wells. Water-closets are not in very general use at present, though they are constantly being introduced, and the water carriage of excrementary matters may in time increase the pollution of the wells.

The inhabitants of Warsaw have a practical illustration of the dangers of filth contamination in the salt impregnated wells in the western part of the village. Most of the wells in the village are more favorably situated for receiving sewage pollution than those wells whose taste betrays the presence of salt are for receiving the waste waters of the salt works.

It should be remembered that clearness of color and pleasantness of taste are no proofs that water is not receiving the drainage from privies and filthy ditches.

Since it is improbable that the use of well water for drinking purposes will be entirely abandoned for many years, the vaults of all privies should be made small and perfectly water-tight, or, if these are still to be in general use, enlightened public opinion should compel the use of water-tight tubs or pails, to be removed under village authority every few days.

VILLAGE SEWERS.

At various times the advisability of constructing a system of sewers has been discussed, and surveys have been made to ascertain the grades that would be required. It has been found that a sewer could be laid in Main street, running to the north, and finally turning to the west and discharging into Oatka creek, while laterals can easily be laid in the streets running east from Main street. The estimated cost of this system of sewers was so large that no action has been taken regarding their construction. The plan suggested was only adapted to the needs of a portion of the village, and the removal of all waste waters, including surface water, sub-soil water and house drainage, was contemplated.

Very recently a number of citizens have, by the consent of the village authorities, constructed a private sewer, of large sized vitrified pipe, running through private property and discharging into the tail-race of a mill near the creek. About twenty-five water-closets are now said to be connected with this small sewer.

The construction of private sewers, forming no part of a well-devised plan, is certainly a very objectionable proceeding, and the needless encroachment upon private property is to be deplored.

As a means of disposal of house drainage, a system of sewers of moderate cost would appear to meet the necessities of the case much better than the use of tubs or water-tight privy vaults. If the sub-soil water could, at the same time, be lowered sufficiently to dry the cellars, the sewers would undoubtedly give a great deal of satisfaction to all who would share in their benefits.

SUGGESTIONS REGARDING SEWERAGE.

It is earnestly to be hoped that no more sewers will be constructed until a carefully considered plan of sewerage for the whole village has been adopted.

For economical reasons and on sanitary grounds it is to be recommended that the system adopted shall be the "separate system," for house drainage, only the sub-soil water to be removed by tile drains laid in the sewer trenches and up to the cellars of adjoining houses.

It is exceedingly desirable that the sewers should be confined to the streets, and be laid through private land only where it is absolutely necessary to do so.

The contemplated outlet for the village sewage is Oatka creek, which already receives a quantity of it.

This creek flows northerly and empties into the Genesee river, about ten miles south of Rochester, after a course of thirty-three miles from Warsaw. The nearest village below Warsaw is Wyoming, about six and a half miles distant. Le Roy, the most important village below Warsaw, is nineteen miles distant, as the creek flows. The creek is said not to be used for drinking purposes at any point of its course; notwithstanding this fact, it is not an outlet for raw sewage that can be recommended. The creek has a small flow in dry seasons, and its waters would then be badly polluted if the sewers were discharged into it. In devising a system of sewers the gradients should be so chosen, if possible, that the sewage may, whenever desirable, be purified by some approved method, without the necessity of pumping. After purification, the sewage could enter the creek without occasioning a nuisance and with much less danger to those below Warsaw who might drink the water. The advisability of some treatment of the sewage, before it can be discharged into potable water, is an additional and very strong argument for excluding surface and sub-soil water from the sewers.

Two main sewers would appear to be needed, one on each side of the creek. One of these sewers could extend along Main street and would suffice for the drainage of all buildings on that street and those east of it. The details of such a plan of sewerage can only be ascertained by careful instrumental surveys. A rough estimate of the cost of the Main street system would be as follows:

3,200 feet of fifteen-inch vitrified pipe, laid	$4,000 00
8,000 feet of six-inch vitrified pipe, laid	2,400 00
6 flushing tanks	380 00
12 man-holes	360 00
19,600 rods of three-inch drain-tiles	4,000 00
Engineering and contingencies	1,200 00
Total	$12,340 00

The necessary four-inch pipes for house drains, with lateral drain-tiles and Y connections at the sewers, will probably cost $25 for each house connection. The entire plan should be devised by a competent engineer, and carried out with the greatest precautions to insure faithful work.

Leaving out of account the expense of purifying the sewage, it does not appear that the cost of the Main street system, which would benefit the greater part of the village, should exceed $12,500.

NECESSITY OF CONSTANT SUPERVISION.

Unless well constructed, any system of sewers is sure to prove a nuisance, and without constant care and supervision, after completion the sewers will very imperfectly fulfill their purpose.

An inspector of sewers should be appointed to examine into the working condition of the flushing tanks, the preservation of the pipes, man-holes and outlets, and to grant permits for house connections. It should also be his duty to see that such house connections are properly made and that no surface or sub-soil water is admitted to the sewers.

The Corporation ditch should be kept clean and so improved as to remove storm water in an effective manner. Even with the largest sewers, surface water occasionally accumulates in objectionable quantities. It does not appear that any thing more than temporary inconvenience is ever occasioned at Warsaw from accumulations of surface water. It is, therefore, in the true interest of economy, as well as in that of health, that a liberal expenditure should be made for securing a system of sewers for house drainage only, and for always maintaining it in perfect order, rather than to attempt the construction of large sewers, which are apt to prove a serious nuisance on many accounts, in a village of moderate size.

The powers of the local board of health should certainly be exercised to prevent the contamination of the sub-soil water by refuse and excrementary matters. Rigorous ordinances must be adopted and strictly enforced without delay, before the sanitary condition of the village can be considered above reproach.

Very respectfully yours,
HORACE ANDREWS, JR.

ALBANY, *June* 8, 1885.

ALBANY, *June* 25, 1885.

To the Board of Health and Board of Trustees of Warsaw, N. Y.:

GENTLEMEN — From your statement to this Board on the 22d of May last, it appears that the citizens of your village have been alive to the dangers which arise from accumulations of filth in a thickly inhabited district, and have undertaken to secure plans for a system of sewerage for the village. The plans made hitherto, and presented for the approval of the citizens, however, have been so costly that they could not be carried out. It seems that your citizens are not willing to abandon the hope of properly draining the village, and your appeal to the State Board of Health for aid and advice is based upon the expectation that it may be able to suggest some practicable scheme for securing the necessary relief.

In view of these facts, Mr. Horace Andrews, Jr., an engineer of the Board, was sent to make an inspection and report as to the necessity for the sewers and the practicability of their construction at a moderate cost. A copy of his report is herewith transmitted, from which it appears that there is urgent necessity for the sewerage of the village of Warsaw. The conditions which he describes are sufficient to prove that fact.

It further appears that a system of separate sewers, large enough to carry sewage only, could probably be built for a cost not to exceed $12,500. Such a system of sewers would probably relieve the village of the principal sanitary evils which now threaten it. That small sewers, such as he describes, and properly arranged with flush-tanks are thoroughly efficient in removing sewage, has been amply demonstrated by the experience of other places. If the system is properly planned by an engineer, and thoroughly understood, it will undoubtedly be successful.

As regards the question of outfall it would appear that the sewage should be more or less purified before being allowed to flow into Oatka creek. Plans for precipitation tanks should be made at the same time as the plans for the sewerage system.

On behalf of the Board,

ERASTUS BROOKS,

Chairman of Committee on Drainage, Sewerage and Topography.

REPORT ON THE DISPOSAL OF THE SEWAGE OF WARSAW.

To the Committee on Drainage, Sewerage and Topography:

GENTLEMEN — In accordance with your instructions I visited Warsaw and Wyoming on the 16th and 17th of September, to see whether it would be desirable for the people of the village of Warsaw to construct a system of sewers emptying into Oatka creek, and whether such disposal of the sewage would create a nuisance endangering the health of the people living on the stream below Warsaw, or in any way injure the water for the uses to which it is now put.

From the paper submitted to me by the committee I learned that the town board of health of the town of Wyoming had protested against the action of the State Board of Health, in recommending that the village of Warsaw construct a system of sewers which should enter into Oatka creek after a proper purification of the sewage.

It appears that they fear that if the sewage of Warsaw should enter Oatka creek, the contaminated water of the stream might by percolation reach the water of the wells in Wyoming, and that the water of the stream would be unwholesome for cattle to drink; also that it would be so contaminated as not to be available for use in the salt wells. They further fear that owing to the sluggish character of the stream there would in places be deposited organic matter, the decay of which would pollute both the air and the water. In company with the president of the village, I first examined Warsaw to acquaint myself with the necessity of sewerage in that place. The conditions have been already described in the report to the Board by Mr. Horace Andrews. He in nowise exaggerates the necessity for relief from the evils which arise from the present methods of filth disposal. Much of the soil of the village is clayey, in which the ground water stands so high as to readily take in solution the filth from privies and cess-pools, and much of that which is thrown upon the surface. Damp and even wet cellars are common through many streets.

Pollution of the ground water of the village and the entrance of this contaminated water into the cellars is doubtless an insanitary condition. The open ditches which are described by Mr. Andrews are polluted and at times offensive; but I think the prevalence of wet cellars, wet with polluted ground water, is even a more serious and widespread evil than these open ditches, although the latter appeal more directly to the senses of the people.

The introduction of a water supply to the village is steadily increasing the difficulties of disposing of polluted waters. There is no remedy for these insanitary conditions excepting a system of sewers and sub-soil drainage. The difficulties that arise from storm water are few and can easily be obviated by surface ditches and gutters. Sewage and sub-soil water are the causes of the existing evils. They can only be disposed of properly by sewers and drains.

There is but one possible outfall for the sewage of the village, and that is Oatka creek, which runs through the center of the place. Several sewers and polluted ditches now empty into this stream. Although the stream is evidently a small one, in times of drought it is still large enough to carry off the fluid part of the sewage of Warsaw, provided the fluid and solid constituents of the sewage are properly separated. The fluid part might contain sufficient putrescible matter to pollute the creek in times of low water, provided it was not properly purified before admission into the stream. It seems to me evident that sewerage is necessary to protect the lives and health of the two to three thousand people living in Warsaw, and that Oatka creek is the only outfall for the sewage. I, therefore, examined the creek between Warsaw and the village of

Wyoming, six miles below, to see whether the use of the creek as an outfall for the sewage of Warsaw was likely to create a nuisance along the stream. The distance by the road between Warsaw and Wyoming is six miles, while by the windings of the creek it is probably at least twelve. The central part of the valley in which the stream flows is so low and flat, and the soil so moist, that it is almost entirely used as pasture. The farm-houses stand back from one-third to one-half a mile from the center of the valley on the slopes at the foot of the hills which rise several hundred feet above the valley. The wells from which drinking water is taken are of course near the houses.

The village of Wyoming, which is situated at the foot of the hills, is some distance from the stream. One mill and two or three houses are, however, in the center of the valley, opposite the village of Wyoming. From the topographical structure of this locality; from my observation of similar valleys in western New York; and from facts which I learned regarding the flow of the sub-soil waters in the neighborhood of Warsaw, I feel sure that the flow of the ground water which supplies the wells is from the hills toward the center of the valley; and that, perhaps with the exception of one or two houses in the neighborhood of the village of Wyoming, there can be no possibility of the water of the stream percolating into the wells. The only wells which might be in any way affected are some twelve miles below Warsaw as the stream runs. Whether or not these wells would receive by percolation any water from the stream is very doubtful.

In continuing my journey down the valley I saw no places on the stream below Warsaw where the drinking water of the people would be injured by the use of Oatka creek for the sewage disposal of Warsaw.

As regards the use of the water of this creek in salt wells I found that several wells were pumping water from the creek, from which wells it was again discharged as saturated brine. The evaporation of this brine produces salt. Should any of the morbific germs be contained in the water that is used they would undoubtedly be destroyed by the heat at which the brine is kept during the process of evaporation. There is, therefore, no probability that the water of Oatka creek would be injured for use in the salt wells by the admission of the purified sewage of Warsaw into the stream.

As regards the effect on the health of cattle drinking the water of this stream, I can find no case reported either in Europe or in this country where the drinking water very slightly contaminated has proved injurious to the health of cattle.

Should the water of a creek be grossly polluted with crude sewage and its banks defiled with deposits from such sewage, it seems not improbable that the health of cattle might be injured by drinking it. Purified sewage is turned into many of the small streams of England from which cows are allowed to drink, and I can find no case of harm resulting. The danger to cattle, therefore, seems remote and improbable provided that the contamination of the water is very slight. In this case the matter seems to depend upon the *amount* of the contamination, which will be very small if the sewage is properly purified, but which might be a serious matter to property owners of Wyoming, if Warsaw should neglect to properly purify the sewage. Assuming then that the sewage of Warsaw be properly purified before being turned into Oatka creek I am of the opinion that it should be allowed on the ground that it is required to protect and preserve the health of several thousand people, while against such method of sewage disposal it can only be said that there are remote possibilities of injury to cattle. Undoubtedly the laws should protect the health of the people of Wyoming by enabling them to insure the proper planning and maintenance of sewage purification works at Warsaw. If these works are properly planned and maintained there will in my judgment be no injury to the public health in the town of Wyoming. I visited the village of Wyoming, and in an interview with the health officer and one of the most active members of the board of health I explained my views in regard to this matter and the desire of the State Board of Health to protect the health of the people of Wyoming, while at the same time recommending what appears to be a necessary measure for insuring the health of Warsaw. These gentlemen seemed to accept the conclusion that harm to the health of Wyoming was improbable, provided thorough sewage purification was maintained at Warsaw. Their fear is that, however well planned the purification works may be, they will eventually be improperly maintained and the creek thereby become foul.

Should Warsaw desire to construct a system of sewerage an act for that purpose would have to pass the Legislature; provided that the present laws would not secure to the people of Wyoming the efficient maintenance by Warsaw of their purification works, a law should be passed affording the necessary redress to the people injured by any such neglect.

Very respectfully yours,
JAMES T. GARDINER,
Consulting Engineer.

REPORT OF THE COMMITTEE ON DRAINAGE, SEWERAGE AND TOPOGRAPHY ON THE DISPOSAL OF THE SEWAGE OF WARSAW.

The State Board of Health, having heretofore examined the village of Warsaw, with reference to the necessity of a system of sewerage for that village, and having recommended the construction of a system of sewers and sub-soil drains, having outfall into Oatka creek, after proper purification of the sewage, and that report having been published in the papers of Warsaw, a remonstrance was received from the town board of health of Middlebury, which lies below Warsaw in the valley of Oatka creek. The local board requested a further examination of Oatka creek below Warsaw, and set forth certain dangers which they feared threatened the public health of Wyoming should the recommendations of the State Board of Health to Warsaw be carried out.

In response to this appeal Consulting Engineer James T. Gardiner was sent to examine the whole question and make such recommendations as the facts of the case might warrant. His report, herewith appended, is approved by the committee. It appears that the rapidly growing village of Warsaw, containing a population of between two and three thousand people, is suffering for want of a proper system of sewerage and sub-soil drainage, and that there is no other outfall for the drainage of Warsaw than Oatka creek. This creek is not used for a potable water supply below Warsaw, nor is there any house in the immediate neighborhood of the stream until it has flowed some twelve miles. The stream is used only for watering cattle and for supplying water to the salt wells. It appears that in the process of evaporating the brine from salt wells, the temperature is raised so high as to kill all morbific germs. As regards the effect of very slight pollution of water on the health of the cattle drinking it, the committee is not aware of any facts to prove that injurious effects have been suffered, although purified sewage in England is discharged into many streams which flow through pastures.

While there are remote possibilities of such injury, they should not, in our judgment, weigh against the positive and known evils which threaten the health of several thousand people in Warsaw. It is, however, important that the pollution of the water should be slight, and this can only be by a careful maintenance of properly-planned works for the purification of the sewage.

Proper legal provision should undoubtedly be made for protecting the rights of the people below Warsaw by insuring the thorough purification of the sewage of Warsaw at all times. We, therefore, recommend that the Board declare that, in their judgment, a system of sewerage and sub-soil drainage is necessary for the village of Warsaw, the sewage to be discharged into Oatka creek so purified as to cause no injury to the health or property of the people on the creek below.

ERASTUS BROOKS,
GEORGE W. COOK, M. D.,
EDWARD M. MOORE, M. D., *President*,
ALFRED L. CARROLL, M. D., *Secretary*,
Committee.

At a meeting of the State Board of Health on the 24th of September, at Albany, the above report was presented, and on motion was adopted by the Board, its recommendations approved and a copy ordered transmitted to the authorities of Warsaw and Wyoming.

ALFRED L. CARROLL, M. D.,
Secretary.

REPORT ON THE DRAINAGE OF THE NEW COURT-HOUSE AT LOCKPORT.

To the Committee on Drainage, Sewerage and Topography:

GENTLEMEN — In accordance with your instructions I visited Lockport on the 20th of July last, to examine into the question of the best method of disposing of the drainage of the new court-house. I found that the greater part of the city of Lockport is without any proper system of sewerage. Short sewers have been built on certain streets generally by private parties, which find outlet into the canal. They often end above water line, as the canal is in a cut where it passes through the western part of the city. The mouths of some of these sewers open close to the bridge on the main business streets and so near to blocks of stores that the offensive odors from the sewers or from some of them are said to be very noticeable. This is not at all unlikely, for the sewers themselves are generally so constructed that much of the fluid matter leaches out of them, leaving the solids deposited in the sewers there to putrefy and grossly contaminate the air.

The parties who live near the open sewer mouths are justly alarmed at this state of things, and the local board of health has forbidden any more sewage from being drained into some of these sewers. The only practicable outlet that I could find for the sewage of the court-house was into one of the existing sewer outlets and thence into the canal, but the city authorities have forbidden the county from using the only available sewer outlet and require them to build one of their own which shall enter the canal below water line.

On the other hand the Superintendent of Public Works has given notice that no sewer or foul-water drain of any kind shall be permitted to discharge into the canal, and that those already existing will be cut off. The county appears, therefore, unable to drain the new court-house. The Superintendent of Public Works will not allow them to build a new outlet into the canal, and the city will not allow them to use the only old one which appears to be available. The discharge of the sewage of the city of Lockport into the canal is certainly very objectionable. Not only is the air polluted by the emanations from the mouths of these sewers, but the water of the canal itself is made so foul as to be objectionable on sanitary grounds both to Lockport and to the towns below. The people of Lockport have felt greatly aggrieved that the city of Buffalo was allowed to pollute the water of the canal and in public meetings strong resolutions have been passed regarding this matter. Buffalo has now gone to great expense to build an intercepting sewer and thus prevent the contamination of the Erie canal water. The city of Lockport should remember that the people who live along the canal below them have the same right to object to their fouling the waters with the sewage of Lockport.

The pollution of the canal water by foul emanations not only endangers people living along its banks and on the canal boats, but after careful inquiry I find that it is not at all uncommon for the boatmen to drink the canal water, and it is of course used by them for ordinary domestic purposes.

A very large number of people are, therefore, exposed to any insanitary influence arising from the waters of the Erie canal. Thousands live along its banks or on its surface during the active season and hundreds use the water for domestic purposes, while many doubtless drink of it. For these reasons it is clear that the use of the canal as an outlet for sewage should not be allowed.

The city of Lockport should construct a carefully-planned system of sewers discharging not into the canal but into Eighteen-mile creek. I examined the ground and found such a system entirely practicable, at least so far as a large part of the city is concerned. The present sewers might be used simply for carrying off storm water from the streets, and the new system be confined to sewage and sub-soil water, unless it be also necessary to provide for their carrying the overflow of cisterns.

It appears that Lockport is largely supplied with drinking water from cisterns situated in the cellars of houses for which proper overflow must be provided. As I have not made a detailed examination it would be impossible to advise at present as to the best method of providing for the overflow of these cisterns; but in general it can be said that a system of small pipe sewers provided with flush-tanks would answer all the requirements of the case.

Objection has been made to giving outfall to the sewage of the city into Eighteen-mile creek. I examined the ground and can see no other practicable outlet for the fluids of the sewage. It appears clear that a nuisance would be created if the crude sewage should be turned into this stream. It will, therefore, be necessary in my judgment to purify the sewage before it is allowed to flow into the creek. As it will undoubtedly be some time before public opinion will be so instructed and aroused regarding the necessity of a sewerage system in Lockport, some temporary means must be provided for the drainage of the court-house. The sewer through which the sewage of the old court-house is at present discharged is not only improperly built but it is not at a proper level to drain the new county buildings. A new sewer must, therefore, be laid, whatever may be the point at which it finds outlet. It would be a measure of proper economy if this sewer should be of such dimensions and grade as to form a part of a general city sewerage system when such a system should be constructed. In consideration of the county building a sewer which would in every way be adapted to city use along the streets in which it was laid, the city might consent to the county sewer finding temporary outlet through one of the existing city sewer mouths, since no new sewer mouth can be constructed.

I, therefore, recommend that merely as a temporary expedient the county be allowed to use the most available outlet through one of the city sewers; but with a distinct understanding on the part of the city that it is a merely temporary arrangement. I informed the city authorities and the city surveyor of my views in this matter. I do not consider this disposal of the court-house sewage a good one on sanitary grounds; but only recommend it as the best available one until proper sewers are built by the city.

Very respectfully,
JAMES T. GARDINER,
Consulting Engineer.

REPORT OF THE COMMITTEE.

The board of health of the city of Lockport having appealed to the State Board in the matter of the sewerage of the new county building situated in the city of Lockport, Consulting Engineer James T. Gardiner was instructed to examine the premises and report such recommendations as seemed best under the circumstances.

His report, hereto appended, is approved by this committee; and in accordance with his suggestions we recommend: That as a temporary expedient the new county building be allowed to find outlet for its sewage into the most available of the existing sewers.

We do not consider this a desirable permanent arrangement, but simply the best possible under the circumstances, and until a proper system of sewerage is provided for this part of the city of Lockport.

We condemn the pollution of the Erie canal with the sewage of Lockport as liable to injure the health of the people living along its banks, both in Lockport and below, as well as the health of the boatmen and their families who live on the canal.

We earnestly recommend the city of Lockport to construct a proper system of sewerage as soon as possible, so arranged with regard to outfall as to create no nuisance to the people living on the stream, which seems to be the natural outlet for the drainage of the city.

ERASTUS BROOKS,
Chairman.

At a meeting of the State Board of Health on September 24th, at Albany the above report was presented, and on motion was adopted by the Board, its recommendations approved, and a copy ordered transmitted to the county and city authorities of Lockport.

REPORT UPON NUISANCE CAUSED BY AN OPEN SEWER AT COHOES.

To the Committee on Drainage, Sewerage and Topography, of the State Board of Health:

GENTLEMEN — There exists in the central part of the city of Cohoes a sewer that is said to have been formerly a natural water-course; in more recent times this has been owned by the Cohoes Water Power Co., who used it for removing a large volume of surplus and waste water.

The Water Power Co. has at various times deeded away most of the property along the water-course, reserving the right to discharge their waste water into the stream. At many places large arches have been built over the water-course, buildings have also been erected close to its banks, and directly over it also, for a distance of about 1,200 feet. At places, however, the stream is uncovered, and also where it empties at the tail-race of the Anchor hosiery mill on Mohawk street.

Gradually the various residents along the course of the stream have turned their house drainage into it and have built privies immediately over it in many places. The city also has a sewer, receiving the surface drainage from several streets and the sewage from a number of houses, which empties into the water-course.

Owing to the great volume of waste water constantly allowed to flow in the stream by the Cohoes Water Power Co., the sewage was entirely unnoticeable until within a year or two, when the company by constructing new flumes has abandoned the stream in question as an overflow, still permitting a small but rapid stream to flow in the wide bed of the former torrent. Now the sewage has become a decided nuisance, causing powerful and disgusting odors; moreover all kinds of refuse and garbage are thrown on the bank of the stream, where it is uncovered. The condition of the stream is such that it is an evident nuisance, especially to those whose occupations cause them to spend much of their time near the mouth of the stream and along its uncovered parts.

SUGGESTIONS FOR RELIEF.

The portion of the city traversed by the stream in question is very imperfectly sewered, the difficulties being that solid rock is everywhere met with and that whole streets are taken up by the flumes of the Water Power Co., which are arched over and themselves become the receptacles of sewage from the city sewers. At some future time proper sewers may be constructed in all the streets and a suitable outfall may be secured by means of a tunnel, as has been proposed. For the present, however, it is hardly possible that relief can be secured from the particular nuisance that is the subject of this report, by any expensive system of sewers. The most practicable plan would appear to be the construction of a sewer of moderate size along the entire length of the wide bed of the water-course. This sewer can have an invert of solid rock for nearly its whole length, about 1,200 feet, and would need to be large enough to receive the storm water and sewage.

The Cohoes Water Power Co. should also withdraw their restrictions as far as may be necessary, to allow of this small sewer being built, and should pledge themselves to continue, as at present, the discharge of a small but constant volume of water into the sewer.

The wide bed of the creek should then be filled with clean and suitable material.

No privies should be allowed on the arch of the sewer, and all connections of every description, including the street catch-basins, should be trapped.

It is believed that the plan here proposed would be a great sanitary improvement upon the existing conditions, and that it can be carried out at small expense ; while possessing features, not altogether desirable, on sanitary grounds, it will nevertheless give much needed relief from a nuisance of considerable magnitude. Whenever a definite plan for the sewerage of that part of the city shall have been carried out and a proper outfall secured, all sewers, including the one mentioned, that pass under buildings and through private property should be abandoned and filled up.

Very respectfully yours,
HORACE ANDREWS, JR.,
Civil Engineer.

ALBANY, *August* 6, 1885.

REPORT

OF THE

SEWERAGE OF MT. VERNON.

To the State Board of Health:

On the 21st day of April the State Board of Health was directed by the Governor to examine and report as to the existence of a nuisance in the town of East Chester, alleged to be caused by the discharge of the sewage of the village of Mt. Vernon into a small brook. The matter was referred to the committee on drainage, sewerage and topography, who took immediate action.

Although this committee had previously investigated and reported on this nuisance, it was considered best to make a second inspection through another engineer, the first examination and report having been made by Horace Andrews, Jr., C. E. In accordance with instructions, O. S. Wilson, C. E., proceeded, on the 23d of April, to Mt. Vernon and made an examination. His report is herewith given in Appendix marked B; Mr. Andrews' previous report, together with the first report of the committee, is given as Appendix marked A.

REPORT.

For a description of the conditions, we would refer to appendices A and B. Mr. Andrews' observations as to the existence of a nuisance are fully sustained by Mr. Wilson. There can be no doubt that the discharge of the sewers of the village of Mt. Vernon into the small brook, therein described, is a nuisance which is likely at times to be of serious magnitude.

By direction of the chairman of the committee, Mr. Wilson took samples of the water from the head of the brook where it enters the sewer, above the village of Mt. Vernon, and, also, samples of the outflow of the sewer. Although these were taken at three o'clock in the afternoon, when the water would be least contaminated, and although there had been no rain for a number of days, so that little street drainage was emptying into the sewers, the effluent was found to be so grossly polluted as to be clearly within the term "sewage." This is proved by the chemical analysis of Prof. Willis G. Tucker, and the chemical and microscopical examination of Prof. William H. Hailes, made at the request of the committee. The samples examined by Prof. Hailes and Prof. Tucker were not identical. No analysis was made of the water at the head of the sewer, as it was evidently very pure compared with the effluent.

It will be seen from Mr. Wilson's report that the village has strict ordinances concerning the admission of sewage into the sewers, the theory being that they are intended for the drainage of streets and subsoil water alone. Whatever may be the theory, the fact is that sewage is flowing from this sewer into the brook, creating a dangerous nuisance. Mr. Wilson's observations, as to the condition of Mt. Vernon, show that a complete sewerage system is very much needed for the village itself.

Mr. Wilson fully approves of the remedy of a small intercepting sewer, suggested by Mr. Andrews in his report and previously approved by this committee and by the Board. The work of laying this sewer, if undertaken at once, could be finished in time to give the village the benefit of it before the hot weather. The building of this intercepting sewer would relieve the creek from the nuisance complained of. It would not only do this, but would also greatly benefit the village of Mt. Vernon, by giving it a permanent outlet for a complete system of sewers, a thing very much needed.

Recommendations. In view of these facts, this committee again recommends the Board to declare the condition of the brook, into which the sewers of the village of Mt. Vernon flow, to be a nuisance, dangerous to life and detrimental to health; and that the Board advise it to be abated, as speedily as possible, substantially as set forth in the report of Mr. Andrews, given in Appendix A.

JAMES T. GARDINER,
Chairman.
ERASTUS BROOKS,
GEORGE W. COOKE, M. D.,
EDWARD M. MOORE, M. D.,
President.
ALFRED L. CARROLL, M. D.,
Secretary.

Committee on Drainage, Sewerage and Topography.

The above report of the committee on drainage, sewerage and topography in reference to Mt. Vernon, together with its recommendations, are hereby approved by the Board and ordered to be transmitted to the Governor, as the conclusions and recommendations of the State Board of Health.

ALFRED L. CARROLL,
Secretary.

A
REPORT
ON THE
SEWERAGE OF MT. VERNON.

To the State Board of Health:

Early in December a petition was received from a large number of the principal citizens of the Village of Mt. Vernon, Westchester county, stating that a small but living stream, running through a part of the village, is made to receive a filthy discharge from sewers which extend through some of the principal streets, and that the stream is thus rendered a foul smelling and unwholesome open sewer, the stench of which is said to be, under some conditions, perceptible at a distance of two or three thousand feet from the stream. The petitioners state that this state of things has existed for several years, and that repeated appeals to the village trustees and the local board of health have been ignored. Last year, it is said, the conditions were made worse by extending the sewers within the village, thus increasing the volume of filth with which the water-course is polluted. The petitioners add, that failing to find relief from the local authorities, they are compelled to ask that the State Board of Health intervene in their behalf.

This petition and the names of the citizens signing it are herewith appended.

As soon as possible after the receipt of this petition, about the middle of December, Mr. Horace Andrews, civil engineer, in the employ of the Board, was sent to examine into the existence of the alleged nuisance, and also into its causes and the best remedy therefor. The sewer complained of is the outlet of a small system of sewers built ostensibly for carrying storm water and spring water only, and there are severe village ordinances against the draining into these sewers of any excremental matter. In spite of these facts, the water made foul in human dwellings, and the foul street washings come through these sewers in such quantities as to be readily observed at the outfall, although it was not demonstrated to Mr. Andrews' satisfaction that human excrement was passing through the sewer. The amount of filth however which is collected by these sewers from other sources is so great as to dangerously pollute the water of the creek, and to cause deposits of organic matter in its channel which in a state of decomposition undoubtedly endangers the health of the people.

This opinion of Mr. Andrews is corroborated by the statements of two succeeding health officers of the village, and by the testimony of a large number of influential citizens. The fact that a large amount of foul organic matter is deposited by this sewer in and along the channel of the stream is beyond question, and that this material is so great in quantity that its decay causes a serious nuisance. This committee therefore recommends that the State Board of Health declare the conditions herein described a nuisance dangerous to life and detrimental to health.

The committee have considered the recommendations of Mr. Andrews respecting the best remedy for the evil. It appears that the village of Mt. Vernon is just introducing a system of public water supply, and that there are no sewers in the village intended to carry off sewage, but that cess-pools and privies are used throughout the town. The dangers from cess-pools and privies have been so clearly set forth to the people of the State, that they need not here be dwelt upon ; but whatever danger there may be in the use of cess-pools before a public water supply is available, the introduction of water, leading, as it does, to the use of three or four times as much per capita, as is consumed when wells and cisterns are the only sources of supply, introduces a new element of danger. There being no sewers, all the water fouled by use in water-closets, baths, and sinks, must find outlet into the soil, which thus becomes saturated with polluted water. Most serious epidemics often follow the introduction of an ample water supply into towns where cess-pools have been for many years in use, and which have provided no sewers to carry off the waste water. It is therefore most important for the public health of Mt. Vernon, that a system of sewerage should be at once constructed to carry off the sewage of the village. The present sewers are available and useful only for storm water and no sewage should be admitted to them. We therefore advise that the separate system of sewers, consisting of small glazed pipe flushed with automatic flush tanks should be adopted and built at the earliest possible moment by the village of Mt. Vernon. As the construction of the sewers may take some time, we recommend that the out-fall sewer of this system be constructed first in accordance with the plan proposed by Mr. Andrews, and that this out-fall sewer, which would be made of twelve-inch glazed pipe, be used as an intercepting sewer for taking the low-water flow from the system of rain water sewers in accordance with the plans.

By an ingenious device, which is described by Mr. Andrews, the twelve-inch pipe of the separate system can be made to carry not only the low-water flow from the storm-water sewers, but also the first part of the flow in times of storm, which is often very foul on account of the street washings which come down into these sewers.

This admirable plan, suggested by Mr. Andrews, will in the opinion of the committee completely relieve the Mt. Vernon brook from pollution, either by sewage from dwellings or by foul matter washed in from the streets in times of rain.

The out-fall sewer recommended is to extend from Mt. Vernon to Hutchinson's creek, a distance of from eight to ten thousand feet. The sewage passing along this pipe will empty into Hutchinson's creek, just above the point reached by salt water. The absence of dwellings from the neighborhood of this creek, and the amount of water flowing in it, render it improbable that any nuisance will be created by the sewage emptied into it. Still it is possible that at some future time the region between Hutchinson's creek and the Sound might become inhabited, and the condition of the channel of Hutchinson's creek become a nuisance. In this case it would be necessary for the village of Mt. Vernon to purify or partially purify its sewage before allowing it to pass into the creek.

It is therefore desirable to make provision for this in the beginning by selecting a place in the line of the out-fall sewer, where small precipitation tanks can be easily constructed. Small tanks for the precipitation of sewage by means of chemicals need cause no nuisance to the neighborhood in which they are situated; and yet it would be better to have them at some distance from the localities that are to be thickly settled.

Wherever these tanks are erected, an abrupt drop of a few feet will be required in the line of the sewer, and it is desirable in selecting the grades for a sewer, that this should be taken into account in the beginning, and the grade so arranged that precipitation tanks can be erected whenever required.

The out-fall sewer extending from the mouth of the present sewer to Hutchinson's creek should be built as early in the spring as possible, and the channel of the village brook cleared out before the hot weather.

As regards the cost of this out-fall sewer, which in the beginning will act as an intercepting sewer for the sewers now built, I may say that a twelve-inch pipe is now being laid in Schenectady, six feet under ground, for forty-five cents a lineal foot, including all costs for excavation, pipe, material and labor.

The man-holes on the sewers are costing $30 each. There would need to be perhaps ten man-holes between Mt. Vernon and Hutchinson's creek. Mr. Andrews has estimated the cost of this intercepting or out-fall sewer at $6,500, which allows for a higher cost per lineal foot than that paid at Schenectady.

Recommendations. This committee therefore recommends that the Board declare the condition of the brook into which Mt. Vernon sewers empty is a nuisance, dangerous to life and detrimental to health, and that the Board advise that it be abated at the earliest possible time, substantially set forth as in the plan of Mr. Andrews herewith appended.

Committee on Drainage, Sewerage and Topography.

JAMES T. GARDINER,
Chairman.
ERASTUS BROOKS,
GEORGE W. COOKE, M. D.,
EDWARD M. MOORE, M. D.,
President.
ALFRED L. CARROLL, M. D.,
Secretary.

At the quarterly meeting of the State Board of Health, February 17th, the above report was submitted, and on motion approved and ordered transmitted to the trustees of the village and the local board of health of Mt. Vernon, as the conclusions of the Board.

ALFRED L. CARROLL,
Secretary.

APPENDIX.

PETITION.

The undersigned, living in and near Mt. Vernon, a village of several thousand inhabitants in Westchester county, ask your attention to a grave sanitary abuse from which many people here have long been suffering. It is of the following nature:

A small but living stream, running through a part of the village, is made to receive the filthy discharges from a sewer which extends through some of the principal streets of the place. The stream is thus rendered foul-smelling, and otherwise disgusting and unhealthy — an open sewer, in fact, during the whole year — and is especially abominable during the warm, dry weather of summer. Those living along its course, both within and outside the village, for a distance of 2,000 or 3,000 feet, are seriously annoyed by the stench arising from it, and the health of many has been injured by its influence.

This state of things has existed for several years. Repeated appeals to the village trustees and the local board of health concerning it have been ignored; and last year the condition of things was made worse by extending the sewers within the village, thus increasing the volume of filth with which the water-course is polluted.

We are the victims of corporate indifference and ignorant stupidity, and having no hope of relief at home, we are compelled to ask that State authority interfere in our behalf.

Christian Von Hesse,
Emily Von Hesse,
Mary MacKaye,
Edward H. Betts,
S. S. Pevear,
W. J. Youmans,
B. Franklin Bernstein,

James D. Irwin,
Saml. Bernstein,
Thomas Thorn,
Wm. L. Marcy,
G. G. Wagner,
J. Frank Hull,
Chas. M. Moseman,

Wm. A. Miles,
Robert Taylor, M. D.,
Geo. S. Miller,
R. D. Watson,
E. A. Youmans,
Edward L. Youmans,
W. R. Austin,
Geo. W. Woosler,
S. L. Close,
A. M. Campbell,
Hiram J. Collins,
H. J. Badenhauser,
B. Hufnagel,
Edw. S. E. Phipps,
W. Koch,
Alfred Cooley,
Charles J. Chatfield,
Wm. Blake,
J. A. Brown,
Robt. Marks,
Peter Sheridan,
Michel Powers,
Patrick Fraley,
John Le Page,
Gustav Schindler,
N. A. Lawlor,
A. E. Crowley,
Joseph Gagg,
William Kortlang,
John Kapp,
George W. Kapp,
Valentin Hinkelbein.

REPORT UPON A NUISANCE AT MOUNT VERNON, WESTCHESTER COUNTY.

JAMES T. GARDINER, Esq., *Chairman of Committee on Drainage, Sewerage and Topography :*

SIR — According to your instructions I have examined into the causes of complaint regarding a nuisance at Mount Vernon, and herewith submit my report.

GENERAL DESCRIPTION OF THE VILLAGE OF MOUNT VERNON.

The village of Mount Vernon is less than fourteen miles by rail from the Grand Central Railroad Depot in New York, and a large number of its inhabitants carry on business in the city. Owing to the ease of access of Mount Vernon its growth has been very rapid of late, the census of 1880 indicating an increase of seventy per cent over the enumeration of 1870. The entire number of inhabitants was 4,586, according to the last census.

The village is somewhat scattering, as there is a tendency toward ownerships of one or two acres or more, but there is a solidly built portion of the village containing at present perhaps as many as 3,000 inhabitants.

In estimating future growth of the village it is safe to predict that the most important increase in numbers will be in the solidly built portion, although the village may become spread over a still larger area than at present, and a considerable growth be evident by an increase in the number of villas and detached houses in the outskirts.

The land upon which the village is situated consists of a number of low hills, of clay in places, and elsewhere of deep beds of gravel. Near the railroad station the land is quite level, and a peat swamp covers several acres.

The streets of the more compactly built portion of the village slope to the north and north-west, the natural drainage being into a small brook which is a branch of Hutchinson's creek.

SEWERAGE OF THE VILLAGE.

About twelve years ago sewers were built in some of the streets for the purpose of readily removing the storm water and that from springs. It was feared by some that these sewers might be used for house drainage, thus causing the effluent to become a nuisance. An injunction was therefore obtained restraining all persons from discharging house waste into the sewers.

At different times the sewers have been extended until they are now about as represented upon the map of the village accompanying the petition.

The main sewer, extending along Fourth avenue, is of brick, oval in cross section and having a greatest internal diameter of about three feet. The sewers along Third and Fifth avenues, which join the main sewer near the railroad station, are of fifteen or eighteen inch vitrified pipe. The Fifth avenue sewer carries the water from springs in the upper part of the village.

The main sewer discharges about 700 or 800 feet north west of the railroad station, the effluent passing along the borders of the peat swamp already mentioned and being considerably augmented by water draining from the west. The course of the small brook thus formed is indicated upon the accompanying map; it flows about a mile and a half from the mouth of the sewer before reaching Hutchinson's creek, the latter soon afterward becoming mixed with the salt water of Long Island sound.

NUISANCE CAUSED BY EFFLUENT FROM SEWERS.

Although, as stated, an injunction restrains the inhabitants from discharging house drains into the sewers, still there have been complaints for the last four or five years as to the foul nature of water discharged from the sewers. It is very evident that rain water flowing from the streets must carry a considerable amount of filth into the sewers, especially where the inhabitants pour waste water into the streets and gutters to a considerable extent. It is also believed by some that neither the liability to fine from a transgression of the law, nor care for the comfort of those residing near the sewer outlet has proved a sufficient motive to prevent some of the residents from discharging their house drainage directly into the sewers.

However filth may get into the sewers, there is no doubt but that it does so, and that the small brook receiving the discharge has been converted from a stream of pure and sweet water into a dirty and vile-smelling open sewer. The health officer, in his last report, says: "The open sewer through the swamp north of the depot cannot but be a source of disease with favorable atmospheric conditions." In June, 1881, the health officer remarks in his report: "It is a question whether great damage has not resulted to many households having connections with the sewers, who, abiding under the delusion that they were only used for water drainage from cellars and the like, have failed to provide proper traps and other safeguards against the invasion of sewer gases into their houses." During the same summer the nuisance arising from accumulations of filth and from offensive waters issuing from the sewers became so great that the health officer presented to the local board of health a remonstrance, signed by a number of citizens of the village, asking for relief. In presenting this remonstrance the health officer, Dr B. J. Burnett, concludes by saying: "Steps looking to the relief of the individuals who are the complainants must soon be taken by the health department of this village to avoid the interposition of the State Board of Health."

At the time of my visit, Monday, December 15, 1884, a heavy rain had occurred within twelve hours, which must have washed out the sewer and have removed surface filth from the streets. It might be supposed that the effluent water would be very nearly clean therefore. The spring water which can be seen near Third street before it passes into the sewer was quite clear and devoid of smell. At the mouth of the sewer, however, there was a very perceptible smell, while the water was much discolored and filled with ropy masses apparently formed by the mixture of soap and hard water. There was no room for doubt that large quantities of soapy water were flowing from the sewer, but whether this came from house-drains or from the emptying of wash tubs into gutters leading to the sewers, is difficult to decide.

In summer time the flow from the springs is quite small and the effluent from the sewer is commonly reported to be very offensive, at such times excrementary matters are said to be frequently visible in the sewer water, and the filthy nature of the muddy deposits along the banks of the brook confirms this statement.

It therefore appears that notwithstanding preventive laws and complaints from residents of the village for a number of years, the sewers do now receive a large amount of house sewage; that the outlet is so placed that a naturally pure water-course has been defiled and rendered an intolerable nuisance and that repeated appeals to the local authorities have been entirely unavailing in affording relief to those residing along the course of the contaminated brook and to those who may innocently imagine that the sewers are only legitimately used, and hence neglect to provide traps in their cellar drains.

UNSANITARY METHODS OF FILTH DISPOSAL AND DANGERS TO BE APPREHENDED IN FUTURE.

Throughout the village of Mt. Vernon the generally adopted manner of disposing of house waste, and the only legal one available, consists in the use of the ordinary cess-pool and privy vault. Up to the present time there has been no public water supply and those who unfortunately live in the more densely settled part of the village must have been compelled to use wells more or less contaminated by the leachings from their own and neighbors' cess-pools.

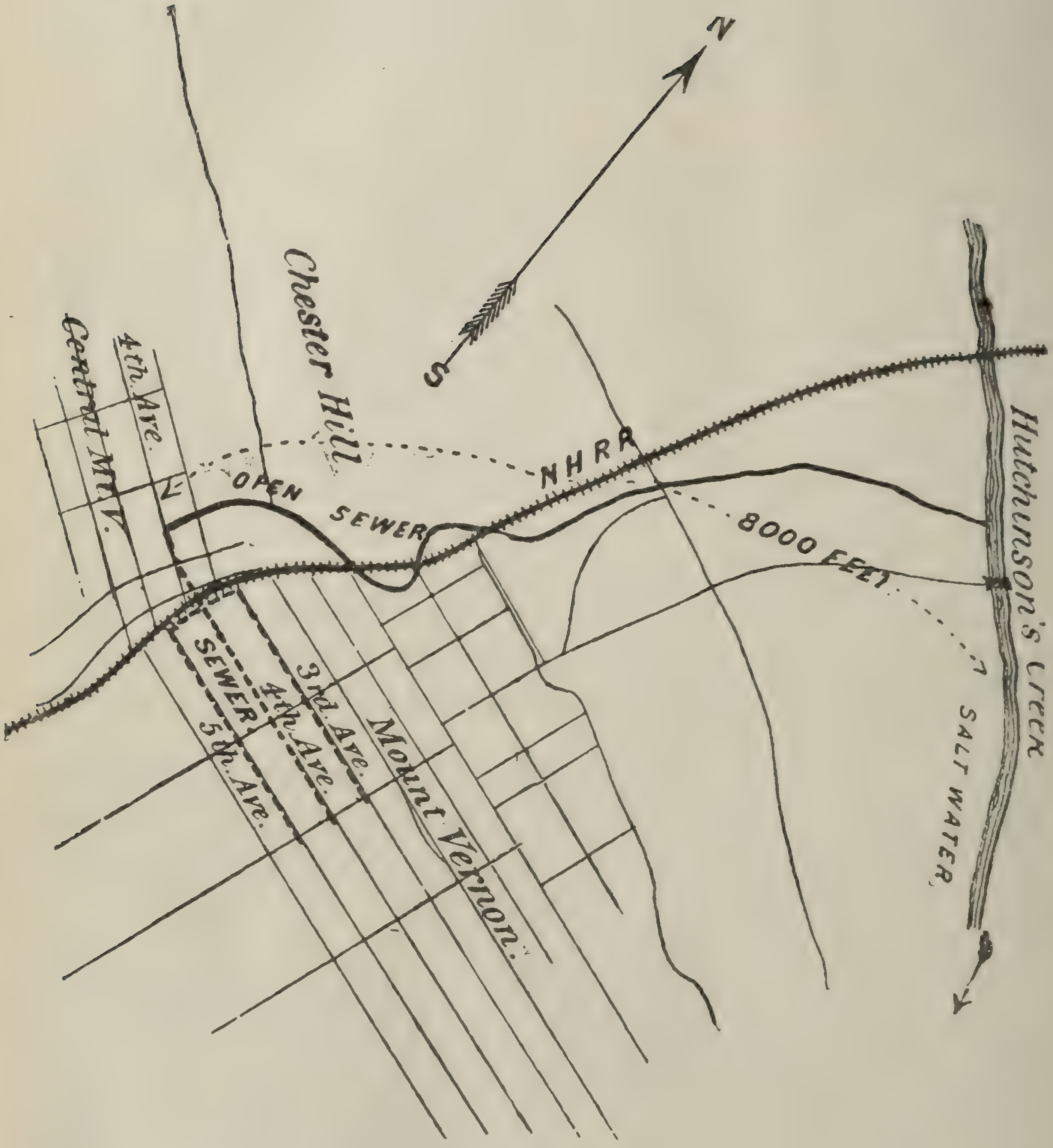
The health officer in a recent report to the Board of Trustees states that: "Within an area bounded by First and Second streets and Third and Sixth avenues, there is not a well from which it is safe to use water. The soil in a large part of this territory is sewage-soaked to saturation."

An artesian well has recently been sunk in the higher part of the village, and at the time of my visit water-pipes were being laid, by which those residing along the course of the sewers, as well as many others, will doubtless soon receive a supply of water very much to be preferred to that furnished by the wells.

When the new water supply comes into use the cess-pools, which are even now inadequate, will soon cease to contain the extra amount of water which will be poured into them. If the ground is now "sewage soaked to saturation" it will be an absolute necessity to provide some proper means of sewage disposal as soon as an abundant water supply comes into use.

PROPOSED REMEDIES.

There would seem to be no practicable means of remedy for the evils that have been the subject of complaint in the present petition except an effective system of sewerage. It is very doubtful if the nuisance complained of is of so dangerous a nature to the inhabit-


N
S
Chester Hill
Central M.V.
4th. Ave.
OPEN SEWER
NHRR
8000 FEET
Hutchinson's Creek
SALT WATER.
SEWER
3rd. Ave.
4th. Ave.
5th. Ave.
Mount Vernon.

ants of Mt. Vernon as the complete saturation of their soil with filth from their drains. Already this latter evil is of appalling magnitude and no action can be too quickly taken to abate it.

Plans of sewerage of very great and indefinite expense have been made, and it is doubtless owing to the apparent magnitude of the undertaking that the inhabitants have for so long time suffered their health to be imperiled and the good name of their village to be brought in question.

The portion of the village that most needs sewerage is all situated on one drainage area and there is no reason why a system cannot be devised for it at once, leaving other portions of the village, which are but sparsely settled, until future needs may require other systems for them also. Without an abundant water supply it would have been useless to consider any means of sewerage, since the modern sewer is intended for the removal of household waste by means of water, but now that there is reason to believe that a liberal supply will be available there is no excuse for deferring action.

In Mount Vernon the present sewers remove the storm-water in an expeditious manner and seem to answer the purpose of their construction. The question to be considered is whether the present sewers can be so extended and otherwise improved as to remove house-waste and the ordinary sewage of the village, or whether it will be better from sanitary or economical reasons to adopt a separate system of sewers for removing sewage proper, allowing the present storm-water sewers to remain, and compelling the inhabitants of the village to use them for their legitimate purpose only.

If the present sewers are to be used for the reception of house-waste it will be necessary to provide some other outlet than the present one and the only one that would appear to be at all practicable would be by means of an extension of the main sewer to the point where Hutchinson's creek meets the salt water. By discharging the sewage, at this point, where the volume of water in the creek is considerable, the sewage would probably occasion no trouble until the village had grown to a much larger size than at present.

The objections to this extension of the main sewer would be that the cost of laying this large main a distance of from 8,000 to 10,000 feet would be very great and in dry weather the flow through it would be quite small, so that a very large extent of surface within the sewer would remain covered with filth, emitting noxious vapors to the annoyance and detriment of health of the village. If the village should further commit itself to the use of large sewers, having the combined objects of the removal of storm-water and house drainage, the system will become a heavy burden to the community for frequent extensions will be called for to remove house-waste in places where there will be no trouble from storm-water for many years.

THE SEPARATE SYSTEM OF SEWERAGE.

To properly remove sewage from the village there would seem no other alternatives than to build an outlet sewer of considerable length or to discharge the sewage into settling tanks where it could be disinfected if necessary and the sludge, precipitated by chemicals, could be removed while the clarified effluent could flow off as at present. In either of these plans it would be desirable to exclude storm-water from the sewers, in order that in the first plan the diminished size of pipe may reduce the cost to a minimum, and in the second, the sewage may be as little diluted as possible.

It has been proposed that the sewage should be removed by allowing it to flow on suitably prepared land in the neighborhood of Pelhamville, but this plan appears wholly unsuitable for the case under consideration, since land is everywhere held at a high price, and there would be loud remonstrances against converting any land adjoining possible villa sites into a "sewage farm."

About one acre would be needed for every one hundred persons in the sewage farm suggested; from twenty-five to thirty acres would therefore be needed at present, which, with the necessary expense of preparing the land, would make this a very costly plan.

Although at some places the expense of operating sewage farms has been partially borne by the increased amount of crops, still, as far as past experience can be taken as a criterion, sewage can neither be utilized as a manure nor purified by intermittent filtration without considerable expense.

Where the principal value of land is that which it possesses as a site for residences, almost any other sanitary method of sewage disposal should be preferred to that of irrigation.

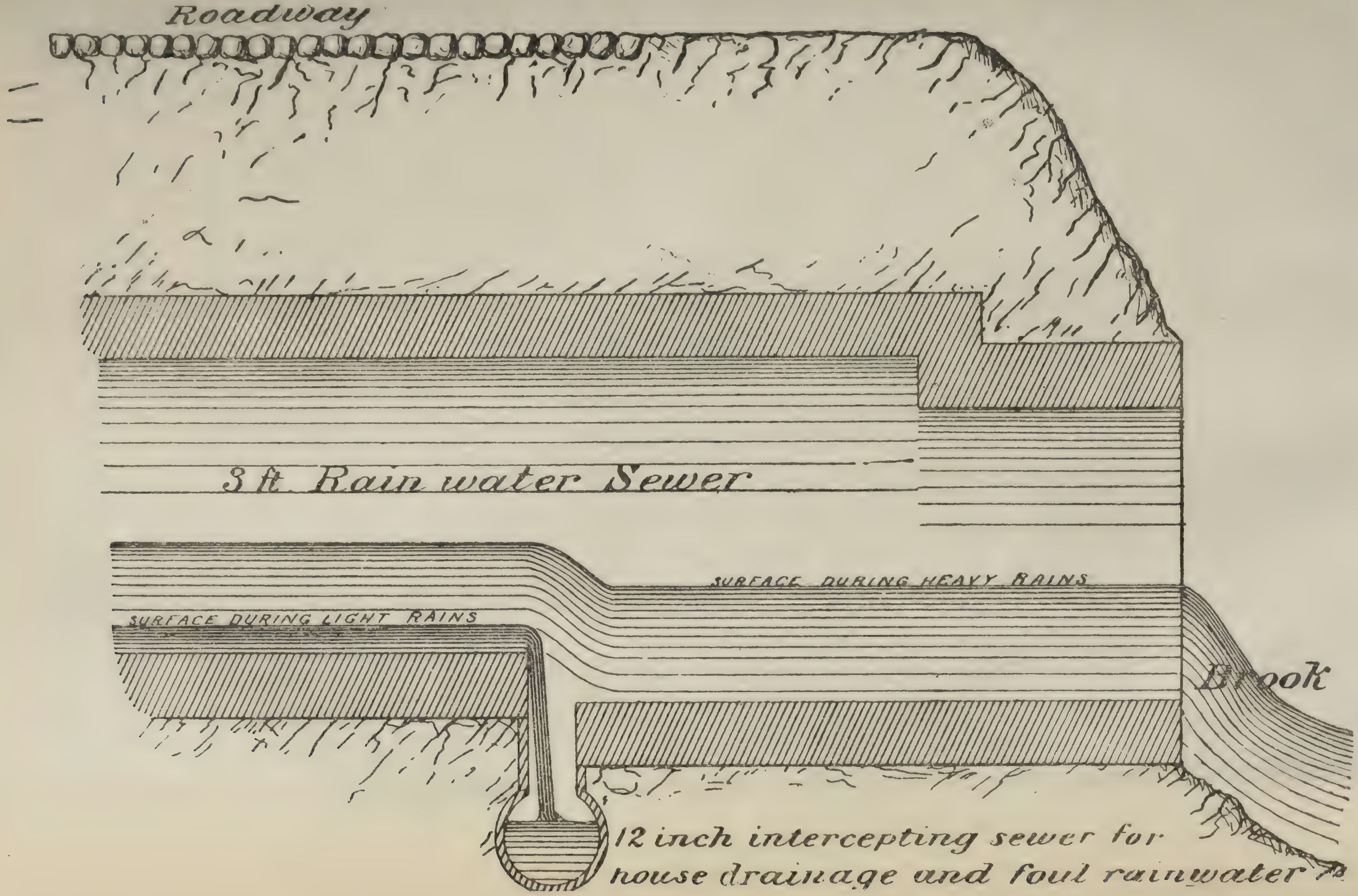
Taking all facts into consideration, it would seem to be the best as well as the cheapest plan to lay a twelve-inch pipe approximately along the course of the small brook, whose contamination is now the cause of complaint, until the sewage can be discharged into Hutchinson's creek at or near the point to which the tide rises. If the growth of the village should in future be so great that a perceptible nuisance would be caused by the discharge of the sewage in the manner indicated, it could then be brought into tanks and precipitated and deodorized. Six or eight-inch lateral pipes would be needed in the main streets of the village with flushing tanks at their ends while the present sewers would remain to drain off the storm-water and to dry the subsoil as they now do.

It is not necessary to describe the separate system of sewerage in detail, as its main features are well known; it would seem to be peculiarly applicable to Mt. Vernon, as there does not appear to be any way to escape the use of an outlet pipe of considerable length, and the smaller the size of this pipe the less costly would the sewage removal be. The separate sewerage system has besides, many points to recommend it in a village like Mt. Vernon. From a sanitary point of view the small, well flushed pipes of the separate system would be much preferable to the large sewers of the combined system, which would in general carry only a very shallow stream of water and would emit disagreeable and unhealthful odors from which the separate system is nearly free.

The cost of the separate system would undoubtedly be much less than that of any other that could be devised, the principal expense being for the long outlet pipe. Careful surveys are needed before the actual length of outlet pipe required can be definitely known, but it would be cheaper to use such an outlet than to attempt to precipitate the solid matters of the sewage. The precipitation of sewage would require careful attention by some one instructed in the requirements of the case. Probably a number of years will elapse, before Mt. Vernon is of such a size as to render its sewage precipitation necessary for the health of those living near the mouth of Hutchinson creek.

A rough estimate of the expense involved in laying a twelve-inch pipe from 8,000 to 10,000 feet in length, with the necessary manholes would be $6,500, while the duplication of the existing sewers by six-inch pipes, together with ten manholes and three flushing tanks, would amount to about $7,000 more. Future extensions of the sewers would involve less outlay than would be possible with any other system.

The entire abandonment of cess-pools and privies in the thickly settled portions of the village is certainly called for, as they are now saturating and polluting the subsoil and poisoning the air in the houses. Strict ordinances are needed relating to cess-pools and privy vaults, not only for the preservation of health of those residing in the central portion of the village, but also for improving the sani-


Roadway
3 ft. Rain water Sewer
SURFACE DURING HEAVY RAINS
SURFACE DURING LIGHT RAINS
Brook
12 inch intercepting sewer for
house drainage and foul rainwater

tary condition of those parts which may be without sewerage for a number of years to come, and where wells may still be in use after the introduction of the new water supply.

TEMPORARY EXPEDIENTS.

If the separate system of sewerage should be adopted at Mt. Vernon, it would be possible to obtain relief from the nuisance that is the occasion of the present petition by merely constructing the long outlet pipe, which would remove contaminated water to a point where it would occasion no trouble. Afterward the laterals, flushing-tanks, etc., could be added as occasion requires.

This temporary plan would call for the admission into the new outlet pipe of the ordinary dry weather flow from the present sewers, and also the first flow from the streets during a rain. The nearly clean water flowing out of the sewers, when the rain fall became heavy, could pass into the brook as at present. Even with the completed separate system of sewers, the first flow from the streets during a rain storm might well be admitted into the small outlet pipe, since the first water flowing from the streets, at the commencement of a rain, will be very nearly as impure as any other sewage.

The device that could be used to secure the admission of the dry weather flow from the present sewers, until the laterals are built, and the first part of any rain fall, would be a very simple one, as indicated in the annexed diagram.

At the point where the sewers cross, an opening is made in the bed of the rain-fall sewer and also in the crown of the intercepting sewer. Knowing the inclination of the rain-water sewer, the size of the openings can be adjusted and the steps in the large sewer fixed so that any given amount of rain water may be taken into the twelve-inch sewer.

The amount that should be received into the small sewer will depend upon the pitch of the latter and its consequent capacity. During a heavy down-fall of rain, the velocity of the flow in the large sewer will be so great that none or very little will enter the twelve-inch sewer.

In very dry weather it is estimated that only three-tenths to four-tenths gallons per second flow through the present sewer, while a few days after heavy rains the quantity was only six gallons per second, or 50.4 cubic feet per minute. A twelve-inch sewer with an inclination of only one in five hundred would carry twice the latter amount.

By the arrangement described, all contaminated waters would be excluded from the brook, and it would cease to be a nuisance to the residents of Mt. Vernon, while the outlet could for many years to come be used for the sewage of all that portion of the village that will need provision for its disposal, after the necessary laterals are provided.

Very respectfully,
HORACE ANDREWS, JR., C. E.

ALBANY, *January* 31, 1885.

B.

James T. Gardiner, Esq., *Chairman of Committee on Sewerage, Drainage and Topography of the New York State Board of Health:*

Sir — In accordance with your instructions, I visited Mount Vernon April 23, and submit the following report on the sanitary condition of the village as I found it, and inclose various extracts of the village ordinances; an extract from the report of the present health officer, Dr. E. F. Brush, dated December 16, 1884, a plan for sewering the village made by S. Towle, C. E., in 1882, and an opinion on the same by J. W. Adams, C. E., 1883, the two latter containing statements pertinent to the present report. Horace Andrews, Jr., C. E., made a report to your honorable committee on the same complaint in January last, which I fully indorse and will only supplement as to the present condition of the village requires.

Water Supply.

Until this spring the source of water for drinking and culinary purposes has been from ordinary wells, which is always a dangerous source in any village. A water company has recently been organized and has put down an artesian well 500 feet deep near the corner of Third street and Seventh avenue. A water main has been laid from the well through Third street to Fourth avenue, thence along Fourth avenue to the New Haven railroad. About three-fourths of the residences along this route are using the water and others have applied for connections. Water mains will be laid in other streets this season. The water seems pure and is soft enough for laundry purposes.

Sanitary Condition of the Village.

Were a person ever so skeptical as to the desirability of having a supply of good water and a system of sewers in a village of 3,000 inhabitants living on a small area, an inspection of this otherwise beautiful village would convince him that they are not only desirable, but really necessary to the enjoyment of life and health. The village authorities have passed certain sanitary ordinances and regulations which are creditable to them, some of which are given below. They seem to be ignored by many of the inhabitants, and their violation overlooked by the authorities.

[Extracts from the Sanitary regulations of the Board of Health of the village of Mt. Vernon.]

ORDINANCES.

AN ORDINANCE IN RELATION TO THE REMOVAL OF NUISANCES.

The Trustees of the Village of Mount Vernon do ordain as follows:

It shall be the duty of any person, owner or occupant on whose premises any nuisance may be found, to remove or abate the same. And any such person or persons who shall fail to remove or abate such nuisance forthwith on receiving notice from the president of the village or a committee from this board, shall be subject to a fine or penalty of five dollars, together with the cost of removal or abatement when done by this board.

Approved September 14, 1875.

AN ORDINANCE IN RELATION TO CONNECTION WITH DRAINS.

SECTION 1. No connections or openings shall be made with any pipe, brick or stone drain or sewer, without permission first having been obtained from the board of trustees, or from such officers of the village as may hereafter be empowered to grant permits therefor.

§ 4. No person having been granted a permit to connect with any drain, shall fill in around the same until it has been inspected, and the connection approved by such person as the trustees may appoint for the purpose.

§ 5. All drains from houses or lots shall have a suitable and proper trap at a point inside the line of such houses or lots.

§ 9. No permit shall be granted authorizing the use of any drain for sewage purposes, nor shall any drain be used for such purposes.

§ 10. All persons, owners and workmen violating either of the provisions of this ordinance shall be liable to a penalty of twenty-five dollars.

Approved November 29, 1875.

PUBLIC REGULATIONS.

At a meeting of the board of health of the village of Mount Vernon, held on Tuesday evening, February 14, 1882, the following sanitary ordinances, regulations and orders were unanimously adopted, viz.

CHAPTER II.

OBEDIENCE TO ORDINANCES.

SECTION 1. That the health officer, under direction of this board, is empowered to make and shall make the necessary inspections and examinations, and shall have power to enforce compliance with the orders, regulations and ordinances of the health department, whenever necessary; and that said health officer shall act summarily when the public health so demands it. That the police officers shall execute all orders of this board and the health officer, whenever so required; and all persons are forbidden to interfere with or obstruct such inspection, examination and execution that the said health officer or police officers shall undertake to perform in obedience to the order of this department, said interference being a direct violation of law and punishable therefor.

§ 4. No person shall impair or imperil the purity or wholesomeness of any water used for drinking or culinary purposes in the village of Mount Vernon.

SECTION 1. That no owner, lessee or keeper of any tenement or boarding-house or factory shall allow the existence of any nuisance or any thing injurious to the inmates thereof, detrimental or dangerous to the public health and safety. All sewers or drains that pass within fifty feet of any source of water used for drinking or culinary purposes shall be water tight. Any violation of this section shall subject the offender to a penalty of twenty-five dollars.

§ 2. That no privy-vault or cess-pool shall hereafter be constructed within the limits of Mount Vernon unless the side walls and bottom of the same are of brick or stone, laid water tight in good cement, nor shall they be within thirty-five feet, or, where practicable, within fifty feet of any well, spring or other source of water, used for drinking or culinary purposes, or within three feet of the line dividing the property of respective owners; and no privy-vault now existing or hereafter to be built shall be allowed at less than fifty feet distant from any public avenue within the limits of Mount Vernon village, unless otherwise specially granted by permit from this board. A violation of this portion of this section shall subject the offender to a penalty of twenty-five dollars. And every privy-vault and cess-pool shall be cleaned and the contents thereof removed at least once before the first day of May, annually. Any violation of this portion of this section shall subject the offender to a penalty of ten dollars.

§ 3. All cess-pools hereafter constructed shall not be less than eight feet in depth and provided with a cover so constructed as to allow of free ventilation and admission of occasional disinfectants and removal of its contents. Privy-vaults shall not be less than four feet in depth.

§ 4. It shall be the duty of all persons occupying houses or parts thereof, for living or other purposes, wherein exist sinks, water-closets, waste-pipes and traps of such, to keep the same in a thorough state of cleanliness; and all owners, lessees, or agents of any house shall see that all waste-pipes, traps, sinks, water-closets, cess-pools, privy-vaults and drainage of such premises are kept in a thorough state of repair. A violation of this section shall subject the offender to a penalty of ten dollars.

§ 5. No owner or lessee shall allow any stagnant water, filth or rubbish at any time of any kind to remain on his or her premises; neither shall said parties allow any dead carcasses or other unwholesome substances to remain upon his or her premises, within the limits of said village, but shall promptly remove or bury the same not less than three feet below the surface in every instance. Neither shall any person permit water, slops or filth of any kind to run from his or her lot into any street or avenue in said village, excepting such water as may result from rain or snow. A violation of this section shall subject the offender to a penalty of ten dollars.

§ 6. No owner, manager, agent or corporation shall allow the existence of any nuisance on or within the limits of any building or other premises over which they have control, within the limits of the village of Mount Vernon. And all water-closets, water and waste-pipes, privies and cess-pools that may exist on said premises controlled by said owner, manager or agent or corporation shall be kept in a thorough state of repair and in a healtful condition, under a penalty of ten dollars for each and every violation of this section.

§ 7. It shall be the duty of every contractor or person, his agents or employees, who have contracted and engaged to remove any dead, diseased animal, rubbish, garbage or filth, or the contents of any privy-vault, cess-pool or other noxious substances, to do the same with dispatch, in a manner as cleanly and as little offensive and with as little danger and injury to life and health as possible. And the contents of all privy-vaults and cess-pools shall be removed during the annual period mentioned — section 2 — and between the hours of 11 P. M. and 4 A. M.; the said contents shall be carried away in water-tight tanks and well covered. A violation of this section shall subject the offender to a penalty of ten dollars.

§ 8. The work of emptying and cleansing said privy-vaults, cesspools and the like shall be performed *only* by such persons as shall be licensed to do the same by the proper authorities of this village, and in accordance with the instructions and restrictions above mentioned, and in all cases previous to said work being undertaken or performed, a permit from the board of health, indorsed by the health officer, shall be first obtained by the public scavenger. Any violation of this section shall subject the offender to a penalty of ten dollars.

SECTION 1. Any non-observance or violation of any of the rules, regulations or ordinances herein made or hereafter to be made by the said board of health of the village of Mount Vernon shall be punishable by the imposing of penalties heretofore specified or prosecution for misdemeanor as provided by law.

FROM LAST ANNUAL REPORT OF THE VILLAGE HEALTH OFFICER.

Mr. President and Gentlemen of the Board of Trustees:

The chairman of your committee on health has asked me to make a report to you on the present sanitary condition of our village, and also what action, in my opinion, is required to improve our surroundings and make us ready to combat cholera and any other contagious disease or epidemic which may arise.

We have passed through a remarkably healthy summer. Our death-rate has been low; and, with the exception of a few isolated cases of scarlet fever and diphtheria, we have not had any epidemic diseases. Just now there is more sickness than at any other time during the year. Scarlet fever, at present, in a mild form, has appeared in several parts of the village and seems to be spreading. The physicians, as a general thing, notify me of contagious diseases occurring in their practice. In cases where the danger of spreading the disease appears at all likely, I have visited the residence of the afflicted, and enjoined those in charge to use more than ordinary care. But it is hardly to be expected, with the present state of the weather, and the bad sanitary conditions of some localities in our village, that we can escape an epidemic. And if, as seems very probable, cholera reaches this country, we will only escape by fortune, or a better sanitary condition and the endowment of more prompt means than we have at present to meet an emergency. It is safe to say, that within an area bounded by First and Second streets and Third and Sixth avenues, there is not a well from which it is safe to use water. The soil in a large part of this territory is sewage-soaked to saturation. There is no ordinance now in force relating to privy-vaults. I am aware that a code was adopted some time ago, but by a body declared illegal by your counsel. The open sewer through the swamp north of the depot cannot but be a source of disease with favorable atmospheric conditions. With a large number of buildings continually going up, there is no supervision of the construction of vaults or the location of wells; and this neglect we will undoubtedly suffer at no distant time.

In the meantime I would respectfully report to you, for immediate abatement, the nuisances existing in the rear of the brick buildings on the west side of Fourth avenue. An old blind sewer ditch is choked and overflowing, especially in the house of Mr. Bernstein, clothier. The wells are contaminated by it, and there is a large accumulation of ashes and garbage in some of the yards; this matter should be attended to during the cold weather, as the disturbance of the super-saturated soil would be capable of creating an epidemic if it should be disturbed during the hot weather.

Respectfully submitted,
E. F. BRUSH, M. D.,
Health Officer.

Dec. 16, 1884.

A system of sewers for storm water is laid in Third, Fourth and Fifth avenues and joined in First street. A village ordinance imposes a fine of $25 for emptying sewage into these sewers. That such sewage finds its way into these sewers there can be no doubt. I was informed by several residents that the following is one way in which this is accomplished, though, of course, their sewage was not connected but they could and did mention names of parties who, they would make affidavit, did do so. A resident asks permission to connect a drain from a damp cellar with the street sewer which shall also carry the overflow from the cistern or rain water from the roof. This is readily granted. He has a cess-pool and privy-vault already connected with each other. The sewer drain is led to the cess-pool and the rain water is turned into the privy-vault, so the surplus rain water find its way to the sewer through said vault and cess-pool. Direct proof against an individual can only be obtained by excavating and following up the connection from the sewer.

Many of the privy-vaults are inside or very near the dwellings and are very offensive. One of these in the block between Fourth and Fifth avenues on First street, although cleaned a few days before, was so noisome as to attract attention passing in the street. In justice I would state that a minority of the trustees are in favor of better sanitary inspection, but seem powerless.

A small brook running from a spring-hole near Fourth street and Eighth avenue in a direction a little north of west emptied formerly into the marsh near the present sewer outlet. It was the practice to empty house drains into its channel and set privies over it, when possible, especially below Second street. The extension of the pipe sewer up Fifth avenue intercepted this stream near Second street. The old channel with its connections now lies — covered lightly — in the block bounded by First and Second streets and Fourth and Fifth avenues and is a vile nuisance. A clothing dealer on Fourth avenue in extending his store intercepted this drain, and as a consequence has sewage in his cellar and seems helpless to rid himself of it. This nuisance should be abated immediately by the health officer, who mentions it in his report.

The New Haven railroad maintains a nuisance along the track where the drain emptying the contents of the depot privies ends. This drain should be continued to the brook and connected with the sewer proposed below.

These nuisances are mentioned here incidentally, not as being all that need immediate attention, but as coming under my personal observation during a stop in the village inspecting a complaint connected with the sewage disposal of the system ending north of the depot in the edge of the

PEAT SWAMP.

There is a peat swamp or marsh containing about eighteen acres lying north of the New Haven railroad and east of Fourth avenue, partly in the corporation of Mount Vernon and partly in the suburb of Chester Hill. It is of the same character as many others in this county, being originally a lake gradually filling up with peat and other vegetable matter. In one portion a rod has been pushed down thirty-six feet without meeting with much resistance, the peat runs gradually thinner toward the edges of the marsh. Third avenue has been partially graded through the marsh with the effect of dividing it into ponds of stagnant water. Surrounded as it is by residences, lying so close to the thickly settled portion of the village, and receiving so much sewage and filth, renders it a nuisance detrimental to public health. It can be readily drained, there being twenty feet fall in the outlet within half a mile. I understand a law enabling the village to obtain and improve it as a park is talked of. It should be drained as soon as possible without waiting for the legislation just referred to.

Near the south-west corner of this swamp the present sewer outlet is located, about 400 feet north of the New Haven depot and fifty feet east of Fourth avenue; from here the sewage flows sluggishly through an open box sewer about four feet wide and two feet deep for a distance of about 800 feet, where it joins a larger stream of spring water from the north-west and flows easterly to Hutchinson's creek. It is this brook, from the sewer outlet toward the creek, flowing as it does near residences, that has caused the present complaint.

This brook passes out of the corporation of Mount Vernon into the suburb of Chester Hill, thence into the town of East Chester proper, which rather complicates the matter of jurisdiction. I took a sample of water from the brook near the point where it disappears in a covered drain at the corner of Third street and Sixth avenue, where the stream would pass through a pipe one inch in diameter at the time of my visit. Also samples of the sewage at the sewer outlet, where the flow was at least fifty times as great. The contamination of the water between these points is very apparent both to the eye and nose. The samples were taken on Thursday at 3 P. M., which is not the time the cess-pools would usually be flushed with laundry waste-water, nor the time of day when fœcal matter would usually be most prevalent. As there had been no rain for many days street washings and other gutter filth would be less liable to be in the sewage.

There was an offensive odor arising at and below the sewer outlet, while solid matter nearly covered the surface of the stream and was seen clinging to pebbles and other points in the channel all the way down for over half a mile. At places where the sun shone on the brook bubbles of gas rose from the sediment in the bottom, showing conclusively that fermentation was going on. The present health officer was out of town, but I met his predecessor, Dr. B. G. Burnett, now of New York, who was health officer from 1880–3. He informed me that he had issued burial permits, when in office, for at least thirty cases of death from bronchial consumption, scarlet fever, typhoid fever, dysentery, bloody-flux and diphtheria, most cases attributed by him to the unsanitary condition of this part of the village.

With a public water supply more water will be used, the ground will become more saturated with filth, and to a greater depth which will tend to make the use of common wells, by those who cling to them, more dangerous than at present, and they should be abandoned in the more thickly settled portion of the village.

PROPOSED REMEDY.

I heartily approve the recommendation of Mr. Andrews as to the intercepting sewer to remedy the cause of this complaint. The village should adopt the separate system of sewers and disconnect all house drains from the present system. The water supply now furnished will provide water for the necessary flushing tanks. This intercepting sewer must necessarily pass through what is now private property. It will be well on this account, as well as to avoid rock excavation as much as possible, to lay this sewer near the channel of the present brook, through and near the village. I was informed that the right of way for the sewer would be gladly given by the various owners along the brook. I would call attention to the reports of Messrs. Andrews, Adams & Towle, as to the present need and advantages for sewage precipitation, when desirable, near Hutchinson's creek.

Respectfully submitted,

O. S. WILSON, C. E.

April 25, 1885.

LABORATORY, ALBANY MEDICAL COLLEGE,
ALBANY, N. Y., *April* 27, 1885.

JAMES T. GARDINER, Esq., *Chairman of the Committee on Drainage of the State Board of Health, Albany, N. Y.:*

DEAR SIR — Agreeably to your instructions, I have made an analysis of the contents of the demijohn secured from you on the 24th inst., and labeled "sample of sewage of Mount Vernon, taken at 3 P. M., April 23d."

A gelatinous scum floated upon the surface, and the liquid had an opalescent appearance, and a slightly greenish color when viewed in a two foot tube. It was translucent, but not transparent.

At 100° Fahr., its odor was fetid and highly disagreeable.

The results of the analysis are as follows:

	Parts per 100,000.	Parts per Million.	Grains per U. S. Gallon.
Chlorine	7.40	74.00	4 32
Free Ammonia	0.5700	5.700	0.3327
Albuminoid Ammonia	0.2550	2.550	0.1488
Organic and Volatile matter	21.40	214.00	12.49
Mineral matter	22.90	229.00	13.37
Total solids	44.30	443.00	25.86

I should consider this liquid to be sewage in the sense that the word "sewage" is ordinarily employed, basing the opinion upon the sensible properties and the results of the chemical analysis of the fluid.

Yours very respectfully,
WILLIS G. TUCKER.

ALBANY MEDICAL COLLEGE,
ALBANY, N. Y., *April* 24, 1885.

DEAR SIR — Examination of sample of sewage from mouth of sewer, Mount Vernon, April 23, 1885, I find: It is a highly putrescent fluid, very foul and offensive, with a distinctly fœcal odor and considerable solid matters in suspension. It contains 8.75 of chlorine in parts of 100,000. It is swarming with numerous forms of scavenger bacteria and infusorial life; there is also a large amount of decaying vegetable and animal matters present.

Such a noxious compound is certainly dangerous to public health (under favoring circumstances it would spread contagion far and wide). Its proper disposal should demand immediate attention.

Very truly,
WM. HAILES,
Albany Medical College.

JAMES T. GARDINER,
Director of State Survey.

POLLUTION OF THE WATER SUPPLY OF BINGHAMTON BY THE SEWAGE FROM THE INSANE ASYLUM.

OFFICE OF HEALTH OFFICER,
BINGHAMTON, N. Y., *February* 20, 1885.

ALFRED L. CARROLL, M. D., *Secretary State Board of Health* :

DEAR SIR — Numerous complaints having been made in an informal manner to the Board of Health of this city concerning the emptying of sewage from the Chronic Insane Asylum, located near this city, into the Susquehanna river, the Board, at its last meeting, directed me to communicate with you as Secretary of the State Board of Health concerning it. The asylum is situated two miles east of the city on an eminence near the river. About midway between that and the central portion of the city is situated the water-works, which supply the city with water. The water for the city's supply is taken partly from wells and partly from the river, and a portion of the time, as is the case at the present, a large portion is taken from the river. The sewer from the asylum empties into the river about a mile above the water-works, where the supply of water for the city is taken from the river. The asylum at the present time contains between 600 and 700 patients besides the attendants and attaches, which will probably make the number of persons in the institution at least 700, and the prospects are that, with increased facilities for accommodating a larger number, there will, in the near future, be not less than 1,000 or 1,500 inmates of the institution. From the sewage of so large a number of persons entering the river so near the city, and its source of water supply, our citizens are becoming alarmed as to its effects upon the lives and health of the people, and are asking from the local Board of Health some relief from the dangers which seem to be threatening them. Now what this board of health wants to know is what is necessary to be done, or in what manner to proceed to prevent this sewage being emptied into the river at the point and in the manner that it is. The asylum property being State property, complicates the matter somewhat in the minds of members of this board, and hence their directions to me to communicate with the State Board of Health for instruction in the matter. The prospect of cholera making its appearance in this country the coming season makes them feel the necessity for vigilance in the matter of prevention.

An early reply, with such instructions as you may give, is earnestly requested. Very truly yours,

C. D. SPENCER, M. D.,
Health Officer and Secretary Board of Health.

COMMITTEE'S REPORT.

In the latter part of February last, the board of health of the city of Binghamton appealed to the State Board of Health to investigate and report on the pollution of the Susquehanna river, by the sewage from the Asylum for the Chronic Insane, located about two miles above the city, and near the bank of the stream.

Some two years ago when an outbreak of so-called winter cholera occurred at Binghamton, the defilement of the river by sewage entered into the investigation.

The physicians at Binghamton state that more or less uneasiness and alarm are felt in the city, concerning the purity of the water supply, and that this uneasiness is readily increased whenever epidemics of zymotic character occur. The fact that sewage is being emptied into the river within two miles of the water-works is considered a standing menace to the health of the city.

In response to the application of the local board of health, Horace Andrews, C. E., was sent to investigate the facts, and his report is hereto appended.

It appears that "for a number of years the supply of water of Binghamton has been obtained from two large wells situated on the northern bank of the Susquehanna river and east of the city. Although the wells are only about one hundred and fifty feet from the river, there is reason to believe that the water running into them does not filter in from the river, but comes from the north and flows toward the river."

In other words, Binghamton has been supplied with the ground-water of the Susquehanna valley, but owing to the rapid growth in population and the increased consumption of water, the ground-water can no longer be relied upon to furnish sufficient quantities for the use of the city; so that a supplemental supply must be obtained by pumping directly from the river, and indeed the river has already been drawn upon when the ground-water has been insufficient. In future the city must depend upon the river for an increasing proportion of its water; so that the question of purity of the stream becomes of much greater importance than it has been in the past.

In 1883, when Emil Kuichling, C. E., examined the sanitary condition of Binghamton for the State Board of Health, he reported that the river was being defiled by the sewage from the Susquehanna Valley Orphans' Home, the sewer from which enters the river half a mile above the pumping station. Mr. Andrews finds that the sewage from the orphanage is still allowed to drain into the river. We recommend that this should be stopped. The local health authorities should see that the sewage from the Orphans' Home is disposed of in some other manner than by draining it into the Susquehanna river.

One and seven-eighths miles above the pumping station the filtered sewage from the Asylum for the Chronic Insane, a State institution, is allowed to enter the river, the quantity being some sixty thousand gallons per diem. The institution contains six or seven hundred inmates besides the officers. It is regarded as probable that the inmates and officers may be increased to from twelve to fifteen hundred in the future.

At a point five or six hundred feet from the main building the sewage is filtered through about five feet of charcoal. The filter is said to be changed every six months. The character of the effluent as it flows from the filters of the institution shows that it still contains a very large amount of putrescible material, and is only purified so far as the suspended matter in it is concerned, while the large proportion that is soluble passes on to the Susquehanna river.

A quarter of a mile below is situated the pumping station for the water supply of the insane asylum. Exactly what the low water flow of the Susquehanna river is we have been unable to ascertain : but it is already small and is probably annually decreasing, while the sewage from the asylum must continue to increase. We are clearly of the opinion that the sewage from the asylum is a possible source of danger to the water supply, both of the asylum and of the city of Binghamton, and that, in its present state, it should not be allowed to enter the Susquehanna river above the points of in-take for these water supplies.

At the request of the committee, Mr. Andrews considered the question of the purification of sewage by irrigation and by chemical treatment, as compared with its disposal through a drain entering the Susquehanna river below the pumping station. He finds, that the ground is not well adapted to irrigation. Even if irrigation were practicable, the condition of the effluent from the sewage farms in England does not justify the admission of the purified sewage into a stream which is used as a water supply.

As regards chemical treatment, Mr. Andrews finds that the annual cost of treating the sewage would probably be from $6,000 to $9,000; that is to say, this would be the amount of capital required to be placed at interest in order to furnish the sum annually needed to defray the cost of chemicals and labor and to pay for the tanks. Were there no other method of disposal, purification by chemical treatment would certainly be a great improvement on mere filtration, as used at present; but even chemical treatment does not so purify the effluent that it can be turned into a stream used immediately below for drinking purposes.

It seems that the insane asylum is so situated, that the sewage can be discharged into the Susquehanna river below the Binghamton dam by a vitrified pipe from eight to nine inches in diameter and some 14,000 feet long. Here the sewage would enter the river at a point where it is already contaminated by the sewers from the city of Binghamton, and no additional harm could be done to the stream. It is not known that within the limits of this State the river is used for drinking purposes below this point. The estimated cost of laying this pipe is $8,160, to which for safety Mr. Andrews adds twenty-five per cent to cover contingencies, making a total of $10,000.94.

The difference between the estimate of cost of this outfall sewer and that for a method of chemical purification is slight; while the advantages are greatly in favor of the outfall sewer which will furnish a complete and permanent means for disposing of the sewage of the insane asylum in such a way as to prevent all question regarding the pollution of the river.

RECOMMENDATIONS.

First. In view of these facts we recommend that the authorities in charge of the Binghamton Insane Asylum construct an outfall sewer of vitrified pipe, in accordance with the report of Mr. Andrews, to deliver the sewage of the asylum at a suitable point below the Binghamton dam.

Second. We also recommend that the local health authorities having jurisdiction prevent the discharge of sewage from the Susquehanna Valley Orphan Home into the river above the water-works' in-take.

Respectfully submitted,
JAMES T. GARDINER, *Chairman*,
ERASTUS BROOKS,
GEORGE W. COOKE, M. D.,
EDWARD M. MOORE, M. D., *President*,
ALFRED L. CARROLL, *Secretary*,
Committee on Drainage, Sewerage and Topography.

At the meeting of the State Board of Health on the 11th February the above report was presented and adopted by the Board.

ALFRED L. CARROLL,
Secretary.

ENGINEER'S REPORT.

JAMES T. GARDINER, Esq., *Chairman of Committee on Drainage, Sewerage and Topography:*

SIR — In accordance with your instructions I have examined into the conditions that have recently been the subject of complaint to the State Board of Health from the health officer and board of health of Binghamton. My report as to the facts observed and suggestions as to a remedy for the evils that are manifest are herewith submitted.

THE WATER SUPPLY OF BINGHAMTON.

For a number of years a supply of water has been obtained from two large wells situated on the north bank of the Susquehanna river and just east of the city. Although the wells are only about 150 feet from the river, there is reason to believe that the water running into them does not filter in from the river but comes from the north and flows toward the river. Attempts to increase the water supply by driving pipes into the bottoms of the wells to various depths have only been moderately successful. A third well, 179 feet long and ten feet wide, was dug in 1883, just east of the pumping-works, but it has not increased the supply as much as was anticipated. There have been times, occurring occasionally for a number of years, when, either on account of drought or excessive consumption of water, it has been necessary to draw water directly from the river. There is no reservoir connected with the pumping-works, the water being kept under a constant pressure in the mains by the pumps, according to the Holley system. It is, therefore, quite necessary to the welfare of the city that an abundance of water should be always available at the pumping-works. Binghamton is steadily and rapidly increasing in size. Its population since it was incorporated in 1867 has been as follows:

1870	12,692	inhabitants	
1875	15,518	do	
1880	17,315	do	
1885	19,500	do	(estimated).

In addition to the increased consumption of water due to the growth of the city, the further completion of the system of sewers that are now being built will undoubtedly make still more heavy demands upon the supply. In view of these facts the water commissioners feel compelled to regard the Susquehanna river as the source from which a large and increasing amount of water must be pumped in the near future.

THE SUSQUEHANNA RIVER AS A SOURCE OF WATER SUPPLY.

The Susquehanna river would appear to be quite as unobjectionable a source of supply as other rivers of its size and with proper care to prevent pollution it may fairly be regarded as an exceptionally good supply. Chemical analysis has shown that the water is of fair purity. The nearest village up the river is Great Bend in Pennsylvania, thirteen and one-half miles from Binghamton, and containing about 550 inhabitants. There are no considerable towns draining into the river for at least sixty miles above Binghamton.

Only a short distance above the pumping-works there are sources of contamination, however, which can be done away with at little trouble and at moderate expense. The chief of these pollutions is the cause of the present complaint.

CONTAMINATION FROM THE SEWAGE OF THE BINGHAMTON ASYLUM FOR THE CHRONIC INSANE.

The insane asylum is supplied with water from the Susquehanna river by means of a pumping engine situated on the banks of the river. A liberal amount of water is used at the asylum, amounting to about 60,000 gallons daily on the average. There are at present between 600 and 700 inmates in the asylum beside the officers. It is regarded probable that the number of inmates and officers may be increased to 1,200 or 1,500 in the future.

The sewage from the asylum is carried by drain pipes to a point 500 or 600 feet from the main building and forty or fifty feet below it, where it is discharged into two filtering tanks placed upon the brink of a ravine.

These filters are used alternately so that one may be cleaned out while the other is in operation.

The filters are constructed by first excavating a circular pit about fifty feet in diameter and six feet in depth. A wall of stone and cement masonry, two feet in thickness, is built as a lining to the pit; within this retaining wall and at a distance of five feet from it, a brick wall about one foot thick is built, the bricks being rather loosely laid. The annular space between the two walls is nearly filled with wood charcoal, and this is loaded with stones to keep it in place. The sewage is poured into the inner tank at the top, and the liquids filter through the brick wall and the charcoal till they are finally discharged at the bottom of the pit. The filtered sewage, which is still somewhat turbid, flows down a small ravine or gulley for about a third of a mile, till it is discharged into the river about a quarter of a mile above the in-take of the asylum pumping-works, and about $1\frac{7}{8}$ miles above the Binghamton water-works.

It is evident that the filtration merely removes the coarse particles held in suspension in the sewage, for the effluent water causes a slimy deposit on objects over which it flows. It is not reasonable to suppose that the charcoal can operate to purify the sewage, by oxidizing its organic matters, for more than a few days at the longest before its pores become clogged. The charcoal is renewed only once in six months, and indeed it would be a very difficult and expensive undertaking to renew it much oftener. The purification of sewage by mechanical filtration has been tried at many places but never with very great success; better methods for the purpose have been devised and are much to be preferred.

There is certainly no question that the asylum sewage as now discharged into the river is a source of contamination of a most disgusting nature; moreover its discharge immediately above the point at which water is taken for the inmates of the institution makes the evil peculiarly revolting.

REMEDIES.

There are three remedies, either of which would decidedly improve the present condition of affairs.

First.— Sewage Irrigation.

Instead of discharging the effluent from the filters into the ravine, it might be allowed to flow on suitably prepared land where it could be utilized as a manure. Unfortunately the soil in the neighborhood of the asylum is poorly adapted for treating the sewage in this manner; a very compact hard-pan underlies the surface soil at the depth of less than two feet, and extensive underdraining would be required. The present filters are too far below the necessary level to allow the effluent to reach the prepared land by gravitation, and they would have to be abandoned or pumping resorted to.

If the sewage was taken to a distance from the asylum where suitable soil could be found for irrigation, the expense of the necessary pipes, together with the fact that the irrigated land would not be under the control of the authorities at the asylum, would have to be considered as objections to this plan. If it were not for the fact that other and less troublesome methods of disposal can be secured at moderate expense, the method of irrigation would, however, deserve careful attention.

Second. Chemical Treatment.

The sewage could be treated with chemicals and the effluent discharged as at present. The purification of sewage has been so little tried in this country, that the expense for chemicals would necessarily be large until these should be produced in the crude state in greater quantities and at lower prices.

The recent investigations of Mr. Samuel M. Gray, C. E., of Providence, R. I., have furnished information regarding the amount of chemicals used, and the expense at several cities in England; from his statistics the facts in relation to these points have been derived. The process of chemical treatment, known as the "Coventry process," where alum, copperas and lime are employed, is one of the best as regards purity of effluent. This process is used in Coventry with 45,000 inhabitants, Hertford with 8,000, and Leyton with about 35,000. The daily amount of sewage treated at these places is 2,250,000 gallons, 2,000,000 gallons, and 1,000,000 gallons, respectively. With such wide differences in the dilution of the sewage, it is evident that the amount of chemicals, and the cost of the same, should be considered on the basis of the number of the population, and not that of the amount of sewage treated; this procedure is justifiable, since the entire amount of sewage produced is treated at each place.

The following table shows the amount of chemicals used and their cost at each of the cities named for one week and for 1, 000 inhabitants.

	CRUDE ALUM.		COPPERAS.		LIME.		Total Cost
	Lbs.	Cost.	Lbs.	Cost.	Lbs.	Cost.	
Coventry....	249	$1 62	30	$0 11	174	$0 24	$1 97
Hertford....	182	1 36	140	30	70	9	1 75
Leyton......	192	1 12	32	21	176	35	1 68

About 400 pounds per day of partially dried sludge, containing about one-half its weight of water, is obtained from the sewage of 1,000 persons.

The copperas and alum are together dissolved in a small quantity of sewage-water, and then mixed with the sewage, after which the lime, separately slaked and mixed with sewage-water, is added and stirred in. After the precipitation has been effected, which requires about one hour, the water is drawn off and the semi-liquid sludge, which is nearly inodorous, is either dried up by pressure or by the evaporation of its water in the open air.

It should be said that the effluent water is still somewhat objectionable; the report on the treatment of the London sewage, which was tried experimentally on a large scale last summer, states that: "No system of single precipitation is capable of the production of an effluent free from sewage odor, even when the precipitants are used in excessive quantities. In order to obtain an inodorous effluent it would be necessary to employ a system of precipitation supplemented by treatment with a deodorizing agent, by filtration through well-burnt and carbonized clay, or by irrigation over an extended area."

The chief item of expense for chemicals in the cities referred to was that for alum; by omitting this, as was done in the London experiments, the expense for chemicals was only about one-quarter as great as when it was used. The sludge obtained where alum is not employed is more fluid than if it were used, but this would not be a very great objection where a small quantity only was to be dealt with.

Expense of Chemical Treatment.

To treat the sewage of 1,000 inmates of the asylum it would be advisable to construct two tanks, each about 170 feet by twenty feet, and four feet in depth. Each tank could hold the entire amount of sewage discharged in one day; with well-built sides of masonry they would cost about $450 each.

If copperas and lime only were used, about 100 pounds of the former and 350 pounds of the latter would be needed each week, costing eighty cents and $1.40 respectively, at the present rates in this country, or $114.40 per year. The effluent would be improved by further treatment with some deodorizer, such as the permanganate of sodium or potassium, but these are at present much too expensive chemicals to employ for this purpose; their cost here is about $40 per 100 pounds, although permanganate of sodium cost in London, when manufactured for the purpose of sewage purification, only $3.80 per 100 pounds. The present filters might be employed with advantage for purifying the effluent to a certain extent by charcoal filtration.

One man employed one-half the time would be sufficient to mix the chemicals and remove the sludge. Capitalizing the various items of expense, the approximate cost of chemical treatment would be —

Two tanks of 100,000 gallons capacity each	$900 00
Chemicals at $114.40 per year, capitalized at three and a half per cent	3,270 00
One-half of one man's labor, at $360 per year, capitalized at three and a half per cent	5,142 00
Total capital	$9,312 00

To offset this expense a manure would be obtained that should be somewhat better in quality and greater in quantity than that obtained from the present filters.

The process of chemical treatment has been so little developed in this country that the cost must be somewhat excessive at first. At the asylum the present filters demand a considerable amount of care, which would cost but little more if chemicals were used. An inferior quality of lime might be procured that would reduce the cost for that item. It would be a fairer estimate, therefore, to place the cost of chemicals and labor required in addition to that now employed as equivalent to a capital of $5,250, making the entire cost, with the precipitation tanks, $6,150. The annual outlay for chemicals and labor is here assumed to be $183.75.

It would be advisable to exclude storm-water from the sewage, to avoid unnecessary dilution if chemical treatment were to be attempted.

Since it is not known that the specific causes of disease that can be attributed to contaminated drinking-water are destroyed by chemical treatment as ordinarily employed, and since the water supply of the asylum is so near its sewage outfall, the purification of the sewage by the methods described can be regarded only as an expedient to be preferred to that now employed, and of moderate cost.

Third. Outfall Sewer.

The most certain and the most desirable method of preventing the contamination of the Susquehanna river at the places from which it is taken at Binghamton and at the asylum would be to discharge the asylum sewage below the dam that has been placed across the river at Binghamton. It might be urged that the river would be just as badly polluted as ever below Binghamton, but there are so many causes of pollution below the city that it can no longer be regarded as a suitable water supply beyond the Chenango river junction. Oswego draws its water supply from other sources, while adding its share of defilement to the river. Binghamton itself has recently adopted plans for a complete sewerage system, devised by Mr. Hering. The separate system is to be used, and construction will progress as rapidly as funds can be raised. There is no reason, therefore, why the asylum sewage should not be discharged into the river below the water-works, and since the current is much retarded by the dam, the sewage should be taken at least as far down the river as that point. The city sewers are to discharge at the junction of the Susquehanna and Chenango rivers, and the city authorities may deem it advisable to so alter their plans as to receive the asylum sewage into their pipes when they are laid. It would certainly be a great and much desired relief to the residents of Binghamton if the sewage could be discharged at the dam, and the question of taking it further down the river could be considered in future, without altering any plans that may now be made for discharging it at the dam.

Cost of Outfall Sewer.

A very close estimate of the cost of the necessary outfall sewer, with man-holes, etc., cannot be made without careful surveys. The superintendent of the asylum, Dr. T. S. Armstrong, has obtained an approximate estimate of the necessary quantities.

About 14,100 feet of sewer-pipe are required, 4,300 feet of which would have a considerable grade, and would require a pipe no larger than eight inches in diameter. The remaining 9,800 feet of pipe would be laid on a light grade, estimated at five feet to the mile; a nine-inch pipe would be amply large, if this grade can be secured, to discharge from two to three times the amount of sewage produced by 1,000 persons.

It is the intention of the authorities at the asylum to filter the sewage, as at present, so as to obtain as much fertilizing material as possible for use on the asylum farm, hence the liquid to be carried by the sewer will be entirely free from any substances that could cause stoppage in the pipes.

Regarding the quantities furnished by Dr. Armstrong as sufficiently close for a preliminary estimate, and making a liberal allowance for contingencies, in view of the imperfect knowledge of the necessary data, the following estimate of cost is arrived at:

QUANTITIES.	Description.	Price.	Amount.
12,795	Cubic yards excavation	25c.	$3,198 75
4,300	Lineal feet, 8 inches vitrified pipe laid	20c.	860 00
9,800	Lineal feet, 9 inches vitrified pipe laid	4c.	2,352 00
300	Cubic yards, retaining and slope walls	$1 50	450 00
20	Man-holes	50 00	1,000 00
20	Lamp-holes	15 00	300 00
			$8,160 75
Add 25 per cent for contingencies and engineering			2,040 19
Total			$10,200 94

With favorable contracts the pipe may even cost less than the above figures, while in view of the fact that the excavation will probably be of an easy nature, the estimate for that item would seem an ample one.

It would seem, considering all the circumstances, that the outfall sewer is to be preferred to any other method of disposal of the asylum sewage. By no other plan can the sewage be removed with as little trouble, and the cost will be small when the number of persons benefited is considered.

OTHER SOURCES OF CONTAMINATION.

It is stated that the sewage from the Susquehanna Valley Orphans' Home, which is not a State institution, still finds its way into the river above the in-take of the Binghamton water-works, and that the conditions fully described by Emil Kuichling, C. E., in his report to the State Board of Health, embodied in their third annual report to the Legislature, pages 248–250, still exist and have not been modified for the better. It furthermore appears that it is quite easy for the city authorities to compel this institution to adopt some mode of sewage disposal that will meet the sanitary requirements of the case.

The city water supply of Binghamton will certainly not be above reproach until the pollution from the Valley Home is stopped. Since the sewage from the Home is small in amount, and there is abundance of land available, it may be found that the entire amount may readily be utilized for irrigation purposes. To discharge the sewage below the dam, a pipe sewer of moderate length only would be required.

Very respectfully,

HORACE ANDREWS, JR., *C. E.*

ALBANY, *March* 26, 1885.

PROPOSED PLAN FOR REMOVING THE SEWAGE OF THE BINGHAMTON INSANE ASYLUM.

The attached plan and specifications for constructing a sewer of iron and vitrified pipe from the Binghamton Insane Asylum to the Court street sewer, in Binghamton is hereby recommended for the approval of the State Board of Health.

JAMES T. GARDINER,
Consulting Engineer.

To the Committee on Drainage, Sewerage and Topography, of the State Board of Health:

GENTLEMEN — I have been authorized by the trustees of the Asylum for the Chronic Insane, at Binghamton, to prepare plans for an outfall sewer from the asylum, and to submit the same with drawings and profiles to you for approval; in accordance with section 4 of chapter 399 of the Laws of New York, of 1885. After a careful examination of the ground and of the existing conditions, with due consideration of future possibilities, I have prepared the plan first mentioned below, but at the request of the trustees, the changes or modifications of the plan afterward referred to, are given also, in order that the committee may give their decision as to which plan for sewage disposal shall be definitely adopted.

PROPOSED PLAN.

It is the declared intention of the trustees to continue the use of filters or screens for removing the coarser solids from the sewage, and it is desirable that this should be done, both on account of the manurial value of such screenings and in order that large solid bodies may be kept out of the pipes.

From the present filters it is proposed to lay an eight-inch vitrified pipe through the asylum grounds for a distance of 2,596 feet; the pipe is to be laid in six straight lengths with man-holes at the bends. On two of the straight lengths a change of grade is made, to avoid deep cutting, and lamp holes are to be placed at these vertical bends. There is no grade in the eight-inch pipe of less than eight in 1,000, at which grade the pipe when running *half full*, would discharge about 38 cubic feet per minute, or over 400,000 gallons per day.

The amount of sewage now produced at the asylum can be closely estimated, since the water is approximately gauged as it is pumped from the river; it is doubtful whether it ever exceeds or equals 100,000 gallons per day, but ample provision has been made for 300,000 to 400,000 gallons in the plan proposed.

Rain-water from the roofs, when not used for laundry or other purposes, should not be allowed to needlessly increase the volume of sewage, and in the new buildings now being erected provision should be made to exclude rain-water from the sewers.

The eight-inch pipe terminates at a point on the south side of the asylum carriage drive, where a man-hole is to be placed; from this man-hole a six-inch cast-iron pipe, calked, and jointed with lead, conveys the sewage along the south side of the carriage drive to Court street, thence along the south side of Court street to the railroad crossing, from which point the sewer must be laid nearly in the center of the street, to avoid the water pipes, for a total distance of 8,622 feet.

The lowest point in the iron pipe is reached in front of the pumping works of Binghamton, where it is only three feet above the river and eighty-eight and one-half feet below the point at which it commences in the asylum grounds. From this low point the pipe rises, as it proceeds westward along Court street, about twenty-five and one-half feet, and terminates at a point on Court street a short distance west of Liberty street. The western extremity of the iron pipe will be 63.05 feet below its eastern end.

The six-inch pipe, when running full, is capable of discharging under the head mentioned, 36.87 cubic feet per minute, or 398,000 gallons per day; it is evident, therefore, that its capacity will be ample under maximum conditions. When only a small amount of sewage is being discharged the velocity of flow in the lower parts of the pipe will be very small, amounting to only twenty-five and one-half feet per minute for a discharge of five cubic feet per minute. Since the pipe is in the condition of an ordinary water-main this low velocity can occasion no stoppage, however, for the moment that solids are precipitated the head of water will be augmented and the velocity of flow will be sufficiently increased to cause the deposited solids to be again put in motion. No better self-cleansing sewer could be devised in fact, for before an entire stoppage can occur in the lower portions of the pipe a water pressure of over 700 pounds will be brought to bear upon the obstruction. As a complete protection against the entrance of improper matters into the iron pipe it is proposed to commence the latter with a diameter of one foot, a suitable screen being placed over the end; the pipe will be diminished to its normal size of six inches, by reducers, within a few feet of its starting point.

ARRANGEMENT FOR FLUSHING.

It is designed that a suitable gate or pen-stock shall be placed at a point about 800 feet from the east end of the iron pipe; by closing this until the sewage is set back in the man-hole a flush of over 1,200 gallons could be secured. By opening the gate the stored up sewgae would run through the pipes with sufficient velocity to remove all sedimentary matters.

It is not supposed that the pen-stock will need to be used very often but it is proposed as an additional and inexpensive safeguard.

The sewage can undergo no putrefactive change within the iron pipe, since it is evident that the time required to renew its entire contents will be but a few hours. About 7,500 feet of the pipe, holding 1,473 cubic feet, or 11,045 gallons, will remain constantly filled and a flow of sewage, amounting to 2,500 gallons per hour, will cause the entire contents to be renewed once in four hours and twenty-five minutes. At times the flow of sewage may be somewhat smaller than here assumed, but such times of minimum flow will be of short duration. The filtering and screening of the sewage will be effectual safeguards against the accumulation of putrescent solids within the iron pipe, though it is not evident that such solids would do much harm within a water-tight pipe.

From the terminus of the iron pipe a ten-inch vitrified pipe of a length of 700 feet will be laid in a straight line and with a uniform grade of 3 in 1,000 to the head of Rutherford street, where the city sewer in Court street begins. The city sewer is, at first, a fifteen-inch vitrified pipe and at its dead end, where it is proposed to discharge the asylum sewage, there is no adequate provision for flushing. The dilute and filtered sewage from the asylum will tend to improve the condition of the city sewer materially.

The Court street sewer ultimately discharges into the Susquehanna river at the foot of State street, after receiving the contents of various branches, carrying the waste water of a large number of inhabitants.

The ten-inch pipe sewer, with a grade of 3 in 1,000, will discharge over 40 cubic feet per minute when running *half full*, or 432,000 gallons per day.

The advantages of the above plan are:

1st. An outlet is obtained that is as good as that of the city sewers.

2d. The sewage is raised to a sufficient height to admit of its being taken into the city sewers, whatever changes may be made in the plan of the latter.

3d. The use of iron pipe, carrying the sewage under pressure, obviates the necessity of very deep cuttings and of many man-holes; it also enables the sewage to be lifted up into the city sewers, whereas if it should be led along the river bank to a point below the Rock Bottom dam, it could not be taken into the city sewers without pumping, if at any future time the outlet below the dam should prove objectionable. By the use of iron pipe discharging into the Court street sewer, a saving of about 2,400 feet in length is effected, as compared with the route along the river bank.

4th. It is estimated, as shown below, that the entire work, including the iron pipe, can be completed within the appropriation, the greater cost of iron pipe being offset by the saving in distance and by the absence of man-holes and small depth of cutting along its course.

5th. The capacity can at any time be increased by extending its upper end. An increase in length of 600 feet would add over 20 feet to the head. It is not probable that such increase will ever be necessary.

6th. The sewer would be laid entirely in the streets and in State property.

APPROXIMATE MAXIMUM AND MINIMUM ESTIMATES OF COST OF SEWER LAID UNDER THE ABOVE-MENTIONED PLAN.

Quantities.	Description.	Maximum cost.		Minimum cost.	
2,596 ft.	8-inch vitrified pipe, laid..........	at $0 80	$2,076 80	at $0 50	$1,298 00
8,622 ft	6-inch iron pipe, laid	at 1 00	8,622 00	at 75	6,466 50
700 ft.	10-inch vitrified pipe, laid..........	at 85	595 00	at 45	315 00
9	Man-holes, complete.......	at 50 00	450 00	at 30 00	270 00
2	Lamp-holes, complete...............	at 6 00	12 00	3 00	6 00
			$11,755 80		$8,355 50

APPROXIMATE MAXIMUM AND MINIMUM ESTIMATES OF COST OF SEWER TO NEW BUILDINGS.

Quantities.	Description.	Maximum cost.		Minimum cost.	
922.2 ft.	8-inch vitrified pipe, laid...	at $0 80	$737 76	at $0 50	$461 10
2	Man-holes..........	at 50 00	100 00	at 30 00	60 00
1	Lamp-hole................	at 6 00	6 00	at 3 00	3 00
			$843 76		$524 10

Total maximum cost	$12,599 56
Total minimum cost	8,879 60
Probable cost, average of above	10,739 58

The cost of the gate or pen-stock in iron pipe is not included It would be about $40.

MODIFICATIONS OF PLAN.

If all that is desired is to secure an outlet for the asylum sewage below the city pumping-works, vitrified pipes could be laid for the entire distance from the asylum to Brandywine creek, a few hundred feet west of the water inlet, and there an outlet could be secured by laying iron pipe out to the center of the river. Only very low gradients could be secured for the pipe from the asylum grounds to Brandywine creek; a uniform slope of 2 in 1,000 could be obtained without cuttings of over twelve feet in depth. A ten or twelve-inch pipe laid at this inclination would be barely self-cleansing, when running half full, while smaller sizes running full would not have sufficient velocity of discharge to prevent the precipitation of solids. It would be necessary to store up the sewage and let it flow down only at intervals, since its volume is not sufficient to fill a ten-inch pipe to a depth at which the flow will have velocity enough to keep the sewer clean, or to use an iron pipe and take advantage of the hydraulic head for the removal of obstructions.

The plan originally contemplated for securing an outlet below the Rock Bottom dam is a practicable one, but there are serious difficulties, both from the fact that private property must be invaded, and because the engineering difficulties are considerable. From Brandywine creek westward the sewer would be laid along the abruptly sloping river bank, and unless the river could be temporarily lowered behind the dam, the trenches would need to be below the level of the water in the river for a distance of from 2,000 to 3,000 feet.

The outlet that could be secured below the dam would be no better than that of the city sewers at the foot of Carroll street, and the latter has been declared objectionable, and has been the occasion of legal controversies.

Very respectfully yours,
HORACE ANDREWS, JR., *C. E.*

ALBANY, N. Y., *July* 21, 1885.

CONTRACT AND SPECIFICATION FOR THE CONSTRUCTION OF SEWERS AND APPURTENANCES FROM THE ASYLUM FOR THE CHRONIC INSANE AT BINGHAMTON, N. Y., TO A POINT BELOW THE WATER-WORKS OF THE CITY.

This agreement made and concluded this day of , in the year one thousand eight hundred and eighty-five, by and between the *Trustees of the Binghamton Asylum for the Chronic Insane*, of the first part, and contractor , of the second part:

(A.) *Witnesseth*, That the said part of the second part ha agreed, and by these presents do agree with the said parties of the first part, for the consideration hereinafter mentioned and contained, and under the penalty expressed in a bond bearing even date with these presents and hereto annexed, to furnish at own proper cost and expense, all the necessary materials and labor, and to excavate for, and build in a good, firm, and substantial manner a sewer from the sewage filters at the Binghamton Insane Asylum to a point of discharge below the water-works of the city of Binghamton, and also, if the Trustees of the Binghamton Asylum for the Chronic Insane so direct, from the sewage filters to the new buildings now in process of erection ; together with appurtenances of every kind complete, of the dimensions, in the manner, and under the conditions hereinafter specified, and ha further agreed that the said trustees shall be, and are hereby authorized to appoint their engineer and such other person or persons as they may deem proper, to inspect the materials to be furnished, and the work to be done under this agreement, and to see that the same correspond with the specification hereinafter set forth, to-wit:

(B.) SPECIFICATION.

Location (1). The sewers shall be located on the lines, shown in the plans of the work, which are approved by the State Board of Health of New York and will be staked out by the engineer.

Excavation (2). The ground shall be excavated in open trenches one foot wider on each side than the exterior diameter of the sewer, and to the necessary depth.

Shoring (3). The contractor shall furnish and put in place suitable sheet-planking and bracing wherever necessary to support the sides of the excavation.

The sheeting and bracing shall be removed as the work progresses in such manner as to prevent the caving in of the sides of the excavation ; all vacancies left by the plank while being drawn shall be carefully filled, as may be directed by the engineer. The engineer may order the sheeting and bracing left in, when in his opinion it is necessary for the protection of the work, and such lumber shall be paid for as provided in article (E) of this agreement.

Drainage (4). The contractor shall, at his own expense, keep the excavation free of water while the foundations, masonry, or pipe are being laid, and shall do all the pumping, bailing, forming of dams or other works necessary.

In effecting the drainage, the water shall not be allowed to flow over the invert of the sewer, except under special conditions for protecting the work, approved by the engineer.

Back filling (5). The work shall be back filled carefully, and packed and rammed under and around the sewer with proper tools. In refilling all the trenches, the earth shall be faithfully rammed in layers not exceeding nine inches in thickness, with rammers, weighing not less than twenty-five (25) pounds, and an area on the bottom of not exceeding sixteen (16) square inches.

Whenever any back filling is being done, there shall always be at least one man ramming, and the proportion of the number of men back filling to the number of men ramming shall never exceed three to one.'

The hardening on the surface of the streets shall be carefully preserved, and replaced over the refilled trenches.

Repaving and restoring streets (6). When the pavement or surface of any street has been removed it must be replaced by the contractor and left in as good condition as it was before being removed.

All surplus material and rubbish must be removed by the contractor.

Protection against accidents (7). The contractor shall erect suitable barriers around all excavations to prevent accidents to passengers on the streets, and shall place and maintain during the night, sufficient lights on or near the work.

Cement (8). The cement shall be pure, fresh-ground, Rosendale cement, of best quality, and when used for filling the joints of the vitrified pipe sewers, only enough water shall be added to give it the proper consistence, and it shall be used as soon as mixed.

Cement mortar (9). The cement mortar to be used in building the man-holes, and for any other necessary masonry, shall be mixed in the proportion of one part, by measure, of cement to two parts, by measure, of clean, sharp sand, free from loam. The cement and sand shall be carefully mixed dry; the water afterward added, and the mortar made fresh for the work in hand. No mortar shall be used which shall be found to be weak or imperfect, either from standing too long after being mixed, or from any other cause.

Concrete (10). Concrete, when required, shall be composed of one part of cement mortar, made as before described, and two and one-half parts of clean gravel, or broken stone free from dirt, and of not more than two and one-half inches in diameter. It shall be quickly and thoroughly mixed, and immediately deposited in place, after which there shall be no walking or working over it, before it is set.

Brick masonry (11). The brick masonry shall be constructed of the best quality bricks, burned hard entirely through, regular and uniform in shape and size, and laid in cement mortar of the quality before specified.

Every brick shall be immersed in water immediately before being laid and shall have full cement joints under bottom, sides and ends, which for each brick shall be formed at one operation, and in no case shall be made by working in the mortar after the brick is laid. Every course of brick shall be laid with joints, not exceeding one-quarter of an inch for face work.

Man-holes (12). Man-holes shall be constructed of such size and at such places as the engineer may direct. They shall be of eight-inch brick work, worked up to within inches of the surface where the opening shall be two feet diameter in the clear.

Projections of iron, fifteen inches apart, to serve as steps, shall be built in the sides of the man-hole, as shown on the plans, or as directed by the engineer. The exterior surface of all man-holes shall be neatly plastered with cement mortar of the quality above described.

Vitrified pipes (13). The pipes for the eight-inch and ten-inch sewers shall be of vitrified sewer pipe, of a quality equal to the best pipe manufactured at Akron, Summit county, Ohio. They shall have socket joints and shall be homogeneous in texture, and burned hard entirely through. The area shall not be less than that of a circle of the specified diameter, and the variation in diameter shall not exceed one-half an inch. No pipe shall be used except for curves, which vary from a straight cylinder more than three-eighths of an inch in two feet.

Especial care must be taken to lay the pipe to the exact grade and line, by such means as the engineer may direct.

All pipes previous to being lowered into the trench shall be fitted together and matched, so that when jointed in the trench they may form a true and smooth line of pipes. In fitting the pipes together no means must be resorted to which shall, in the judgment of the engineer, be thought detrimental to the pipes.

Joints (14). A gasket of tarred oakum shall be pressed into the joint around the entire circumference of the vitrified pipe, to prevent the entrance of cement to the inside of the pipe. No joint shall be cemented until the gasket of the next joint in advance has been completed. Cement shall be pressed into the space between the socket and spigot so as to entirely fill the space, and the bevel joint at the end of the socket shall be smoothly and evenly made.

All iron pipe shall be jointed with lead, to a depth of not less than two inches, and such joints shall be thoroughly water-tight and completed to the satisfaction of the engineer.

An excavation must be made in the bottom of the trench for the sockets of the pipes so that these may be supported throughout their entire length.

Iron pipes (15). Iron pipes shall be cast vertically, the castings shall be truly cylindrical and the spigot of every socket pipe shall fit properly into the socket. The sectional area of every pipe shall be truly concentric, and any pipe which deviates more than one-fourth from the specified thickness must be rejected. The pipes must be furnished in twelve-feet lengths and must be seven-sixteenths of an inch in thickness. The tensile strength of the iron of which the pipes are formed shall not be less than 15,000 pounds to the square inch, and they shall be tested in a hydraulic machine to a pressure equivalent to a head of water of 400 feet.

Support for pipes crossing Brandywine creek (16). The cast-iron pipes crossing Brandywine creek above the bed of the creek shall be suitably supported by timbers and so boxed around and protected as to be secure from danger of freezing and of damage from ice during freshets.

The timbering and securing from frost shall be done in a durable and substantial manner and shall be subject to the approval of the engineer.

Protection of joints from the roots of trees (16½). Wherever the vitrified pipes pass in the neighborhood of trees the joints shall be prepared with especial care and they shall also be surrounded with concrete, wherever in the opinion of the engineer it may seem advisable, so as to effectually protect the pipes from the insinuation of roots.

Sewers and man-holes to be kept clean (17). When the trench is left for the night, or the pipe laying is stopped by rain storms or any other cause, the ends of the pipe must be closed water-tight with a plug and cement or in such other manner as the engineer may direct. Before the sewers and man-holes are accepted all earth and rubbish must be thoroughly removed from them.

Dismissal of incompetent persons (17½). If any person employed on the works by the contractor shall appear to the engineer to be incompetent or disorderly, he shall be discharged immediately on the requisition of the trustees; and such person shall not again be employed.

House connections (18). Y branches shall be placed at points indicated by the engineer. They shall be closed with an earthenware cap, and the space above the cap shall be filled with sand, covered with a thin coating of cement.

Valves (18½). Valves in the iron pipe shall be of good workmanship and accurately fitted in all their parts; they shall be suitably protected from frost, and so arranged as to be readily operated from the surface of the ground, in the usual manner of arranging such appurtenances to water pipes.

Suspension of masonry and protection from frost (19). No work in cement masonry shall be done when the thermometer is below 35° F. All unfinished masonry shall be properly protected from frost and water.

Responsibility of contractor (20). The contractor shall have charge of and be responsible for the entire line of works until their completion and acceptance, and any unfaithful or imperfect work that may be discovered at any time before the final completion and acceptance of the work embraced in this agreement shall be corrected immediately on the requirment of the engineer.

Rejected materials to be removed (21). All materials to be provided by the contractor shall be of the best description, and he shall furnish all efficient labor and implements necessary for the full and complete performance of his contract. If any materials or implements should be brought to the ground, which the engineer may deem to be of improper description, or improper to be used in the work, the same shall be removed by the contractor as soon as practicable.

Work to be prosecuted without unnecessary delay (22). If at any time the work is stopped by the insufficiency of pipe or other materials on hand, the contractor must be liable for all expenditures that the trustees incur by such delay, including the pay of the engineer.

Lamp-holes (23). Lamp-holes shall be constructed by placing a six-inch "T" branch vertically in the sewer and bringing it up to within one foot of the surface by adding pipes of the same diameter. The tops of the lamp-holes shall be closed with covers of vitrified earthenware, and earth to the depth of one foot shall be placed over the covers.

Line and level marks to be protected (24). The contractor shall furnish the engineer the necessary facilities for giving lines and grades for the work, and shall carefully protect such line and level marks from being disturbed.

Power to vary work (25). The work shall be carried on in such portions as the engineer shall direct, and he shall have the power also, with the consent of the trustees, to vary, extend or diminish the quantity of work during its progress without vitiating the contract; but no parts of the works shall be altered by the contractor from that shown on the drawings or described in the specification, without the express sanction of the engineer in writing.

Disputes (26). In case of any dispute as to the meaning of this specification, the decision of the engineer given in writing shall be final and conclusive.

Omissions (27). Any work not herein specified, which may be fairly implied as included in this contract, of which the engineer shall judge, shall be done by the contractor without extra charge.

Trustees (28). Wherever the word "trustees" is used in this specification it refers to the trustees of the Binghamton Asylum for the Chronic Insane, the parties of the first part to this agreement.

Engineer (29). Wherever the word "engineer" is used in this specification it refers to the engineer appointed by the trustees to plan and direct this work, or his authorized assistant or inspector, and all explanations or directions necessary to completing satisfactorily the different descriptions of work contemplated and provided for under the contract will be given by said engineer.

Contractor (30). Wherever the word "contractor" is used in this specification, it refers to the party or parties of the second part to the agreement for the construction of the work herein specified.

Interpretation of terms (31). Bids shall state the price per lineal foot of pipes of each size and material laid as herein specified, which price shall be in full for all labor and materials required for the complete execution of the work; also the price for each man-hole and lamp-hole complete.

Time (C). The said part of the second part hereby further agree that will commence the aforesaid work within five days after notice in writing shall be given to commence, and progress therewith so as to complete the same, in accordance with this agreement, on or before the expiration of the day after the date of said notice.

Work to be done (D). The approximate estimate of the work to be done, upon which the award to the contractor will be made, is as follows:

Seven hundred feet of ten-inch vitrified pipe sewer, to be laid along Court street, from Rutherford street eastward, with Y branches for house connections, requiring a trench of from six to eight feet in depth.

Eight thousand six hundred and twenty-two feet of six-inch cast-iron pipe sewer, to be laid from the terminus of the above-mentioned ten-inch pipe, eastward along Court street to the asylum grounds and in the private road of the asylum, requiring a trench of six feet in depth, also a proper support for the pipes in crossing Brandywine creek, under the bridge and to be carried under the two dry gulleys near the asylum grounds. One penstock or valve to be placed in the iron pipe.

Two thousand five hundred and ninety-six feet of eight-inch vitrified pipe to be laid through the asylum grounds to the east of the carriage drive and requiring a trench of from six to nine feet in depth, averaging about seven and one-half feet in depth. Nine man-holes, two lamp-holes.

Also if the trustees shall so decide, 922 feet of eight-inch vitrified pipe, to be laid through the asylum grounds to the new buildings, requiring a trench of from six to nine feet in depth, averaging about seven and one-half feet in depth. Two man-holes, one lamp-hole.

Prices (E). The said part of the second part hereby agree to receive the following prices as full compensation for furnishing all materials and labor in building and constructing, and in all respects completing the aforesaid work and appurtenances, in the manner and under the conditions before specified, to-wit: For furnishing the material and building the iron and vitrified pipe sewers, man-holes, and lamp-holes; also all the excavations, whether hardpan, quicksand, slides, boulders or otherwise; also all plank used for sheet piling, or any timber used for supporting the banks or sides of the excavation; also all bailing and pumping; also the repairs to the gas-pipes and water-pipes; also the filling in and ramming the earth around and over the sewers and appurtenances; the removal and disposal of all rubbish or surplus earth, dug out of the trenches; also for furnishing earth and sand for refilling the trench, in case of deficiency; also the cleaning out of the sewers and man-holes, and the removal of all rubbish immediately after the completion of each section, as hereinbefore provided; also for suitable timbering to support the iron pipe over Brandywine creek, and to protect it from ice and frost; and for well and faithfully completing the same, and the whole thereof in the manner hereinbefore specified, viz.:

For sheeting and bracing, ordered left in, the sum of ten dollars ($10) for each 1,000 feet, board measure.

For each running foot through the center, of all ten-
  inch vitrified pipe sewer the sum of .... $
Of all eight-inch vitrified pipe sewer the sum of....
Of all six-inch cast-iron pipe sewer the sum of......
For each man-hole complete the sum of...........

For each lamp-hole complete the sum of........... $
For pen-stock in iron pipe... ....
For each Y branch in the ten-inch pipe............ cts.
For each Y branch in the eight-inch pipe.......... cts.

Contract not to be assigned without permission (F). And the said part of the second part further agree that will not assign, transfer or sublet the aforesaid work, or any part thereof, without the written consent of the trustees, and that any assignment, transfer, or subletting, without the written consent of said trustees, shall in every case be absolutely void.

Provisions for payment (G). And the said part of the second part further agree that shall not be entitled to demand or receive payment for any portion of the aforesaid work or materials until the same shall be fully completed, in the manner set forth in this agreement, and such completion certified by the engineer in charge of the work, and by the inspector appointed to examine the same, and until each and every of the stipulations hereinbefore mentioned are complied with. Whereupon the parties of the first part will pay, and hereby bind themselves and their successors to pay, to the said part of the second part in cash, on the day of the month next succeeding that in which the work is done, eighty-five (85) per cent of the monthly estimate of the whole amount of money accruing to the said part of the second part under this contract: Providing that nothing herein contained be construed to affect the right hereby reserved of said trustees to reject the whole or any portion of the aforesaid work, should the said certificates be found or known to be inconsistent with the terms of this agreement or otherwise improperly given.

When the percentages retained are to be paid (H). And it is further agreed by the parties of the first part, that the remaining fifteen (15) per cent shall be paid to the said part of the second part as follows: Ten (10) per cent when the contract is completed and duly certified to, and the remaining five (5) per cent at the expiration of six months from the date of the final estimate for the whole work.

IN WITNESS WHEREOF, The parties to these presents have hereunto set their hands and seals the day and year first above written.

The above-named plan is hereby approved by order of the State Board of Health.

EDWARD M. MOORE, M. D.,
President.
ALFRED L. CARROLL, M. D.,
Secretary.

[The outfall sewer from the Asylum for the Chronic Insane at Binghamton, with branches to the new buildings, was constructed

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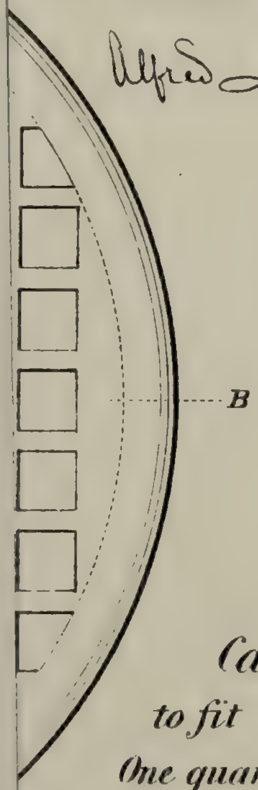
weig ES OF SEWER
THE
NSANE ASYLUM

ans prepared by

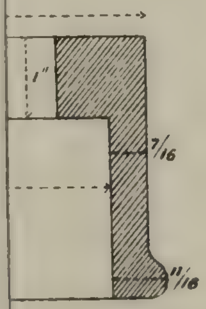
NDREWS.

1885.

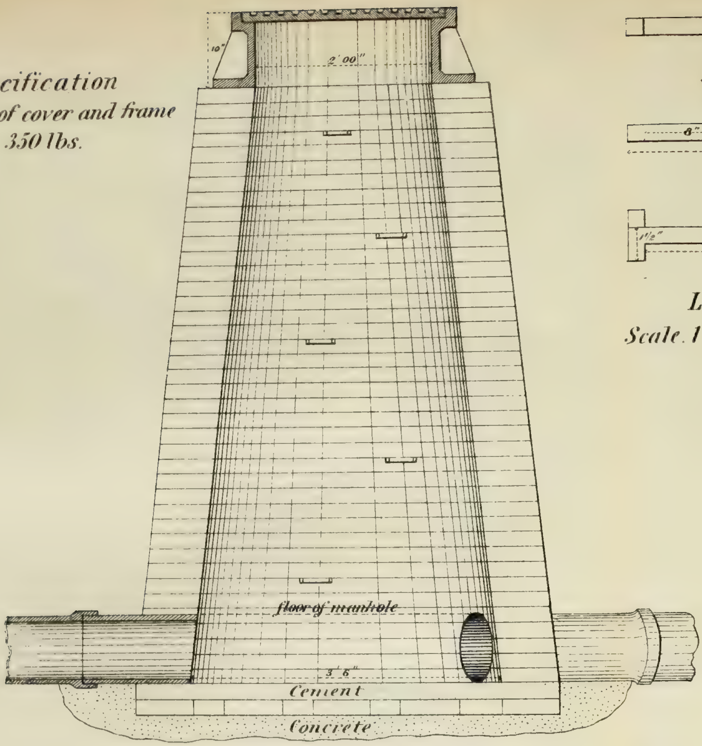
Approved by order of the
State Board of Health
Edward M. Moore M.D. President
Alfred Ludlow Carroll Secretary.
August 3rd. 1885.

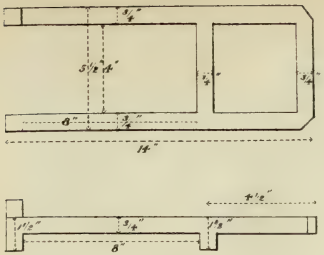


Cast Iron Screen
to fit 12" iron water pipe
One quarter natural size.



Specification
weight of cover and frame
350 lbs.





Ladder Step
Scale. 1½ inches to the foot.

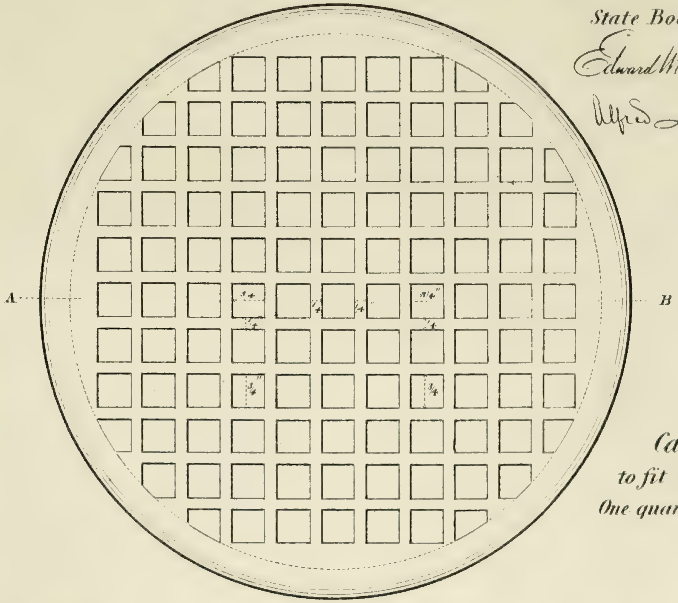
# APPURTENANCES OF SEWER
FROM THE
BINGHAMTON INSANE ASYLUM

to accompany plans prepared by

HORACE ANDREWS.

JULY 1885.

Approved by order of the
State Board of Health
Edward M. Moore M.D. President
Alfred Ludlow Carroll Secretary
August 3rd. 1885.



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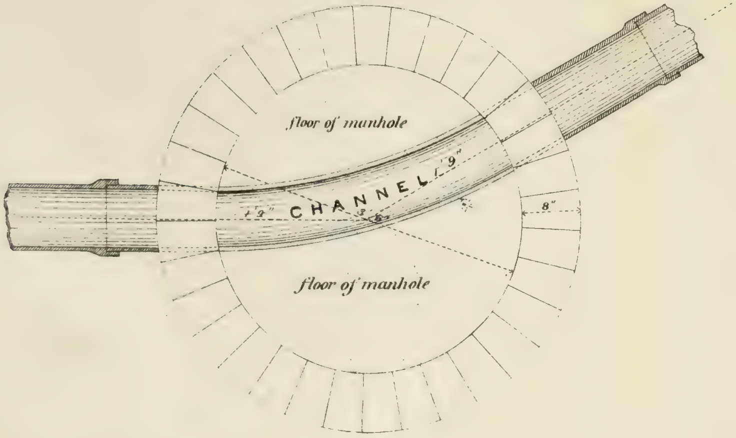
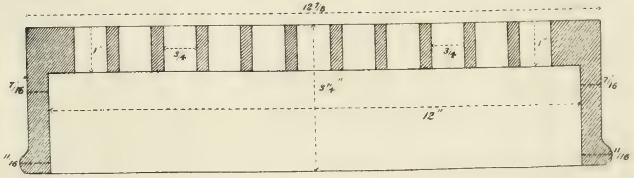
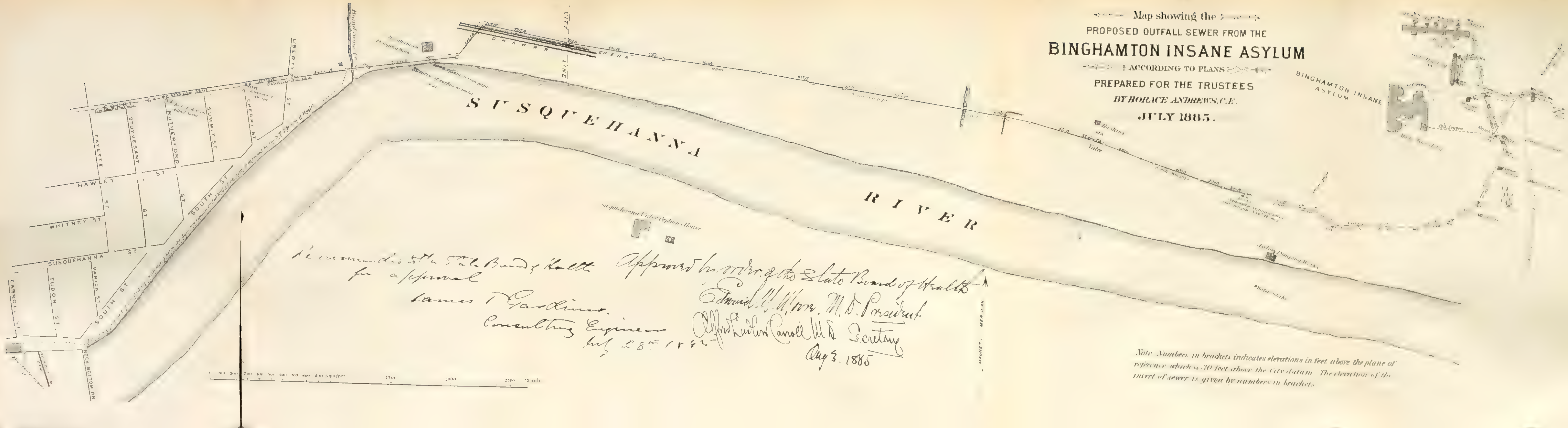


Manhole. Scale 1 inch to 2 feet.



Section through A.B.



Map showing the
PROPOSED OUTFALL SEWER FROM THE
BINGHAMTON INSANE ASYLUM
ACCORDING TO PLANS
PREPARED FOR THE TRUSTEES
BY HORACE ANDREWS, C.E.
JULY 1885.

Note Numbers in brackets indicates elevations in feet above the plane of reference which is 30 feet above the City datum. The elevation of the invert of sewer is given by numbers in brackets.

Recommended to the State Board of Health
for approval
James T Gardiner.
Consulting Engineer
July 28th 1885

Approved by order of the State Board of Health
Edward M. Moore, M.D. President
Alfred Ludlow Carroll M.D. Secretary
Aug 3. 1885

substantially in accordance with the plans, as approved by the State Board of Health. The sewerage system has been in successful operation since December last.

Mr. Horace Andrews was the engineer appointed by the trustees of the asylum to prepare the plans and to supervise the work during construction. His assistant, Mr. John L. FitzGerald, personally inspected the entire work of construction in all its details. The contractor was Mr. Arthur Osborn, of Binghamton.]

REPORT UPON THE OAK HILL CEMETERY AT NYACK, ROCKLAND CO.

ALBANY, *November* 25, 1885.

To the Board of Health of Nyack:

GENTLEMEN — I have the honor to transmit herewith the report of Mr. Andrews on the condition and probable sanitary effects of the cemetery adjoining your village, a report with which I fully concur. The dangers arising from the decomposition of animal matter in burying-grounds vary with the character of the soil, but under any circumstances, the difference is rather one of degree than of kind. In porous soils, such decomposition takes place most rapidly, complete decay of the body sometimes occurring in a very few years; but these soils permit the greatest diffusion of gaseous and dissolved products. In the case under consideration, with a gravelly superficies underlaid by almost impervious strata, such wide diffusion of the rapidly-produced liquified results of putrefaction would be particularly favored, and the risk of pollution of comparatively distant sources of water supply enhanced. It has long been a matter of common experience that low fevers and various forms of "filth diseases" are apt to prevail in the neighborhood of old burying-grounds where population gathers around them; and even before these marked consequences ensue, a general depreciation of vitality and a lessened power of resisting other causes of disease is often observed.

As regards the report of Dr. Hailes, it may be remarked that although our present knowledge of the roles played by different species of bacteria is not sufficiently accurate to justify a positive statement as to the precise "diseased germs" contained in any given specimen of water, but by common consent among biologists the rapid multiplication and early liquefaction of the solidified gelatin is considered as indicating approximately the disease-producing nature of the microscopic organisms under investigation. The warning given by Mr. Andrews in relation to the ice-pond is one that should be heeded; the popular superstition that water in freezing purifies itself from organic matter is mistaken, and it is certain that a temperature far below freezing does not destroy the germs of the most virulent maladies.

I am, gentlemen, your obedient servant,

ALFRED L. CARROLL, M. D.,
Secretary.

Engineer's Report.

To the Secretary of the State Board of Health:

SIR — In accordance with your instructions, and in response to a request from the board of health of Nyack, dated October 10, 1885, I have made an examination of the Oak Hill Cemetery and its surroundings, and herewith submit my report:

SITUATION OF OAK HILL CEMETERY.

The cemetery, known as Oak Hill Cemetery, is situated partly within and partly without the corporation limits of the village of Nyack, in the extreme western part of the village, and distant about three-fourths of a mile from its central or business portion.

The land upon which the cemetery is situated slopes abruptly to the south, and more gently to the east and south-east. A small creek, flowing eastward past the cemetery and through the village, has been dammed to form an ice-pond, covering several acres and lying to the south of the sloping ground upon which the cemetery is placed. A considerable number of interments have been made within 500 feet of the shore of the ice-pond and at elevations between 60 feet and 150 feet above the level of its surface.

There are six or eight dwelling-houses between the cemetery and the ice-pond, and a number to the eastward of the cemetery. The Rockland College, a large boarding-school, also is located very near to the cemetery, and to the eastward of the same.

All of the houses mentioned, including the school, are supplied with water from wells and springs adjoining them. Many of the houses have been built for a number of years, and have till recently depended exclusively upon their wells for drinking water. The superintendent of the cemetery resides within its limits, on the southerly slope, and has for many years been supplied with water from a spring upon the property.

A number of the houses referred to, as well as the school, are now provided with water pumped from the Hackensack river, several miles to the westward, but the disagreeable and turbid appearance of this water renders its use for drinking purposes a rarity, while some of the houses have no other supply than their wells. Suitable filtering would probably render the Hackensack river water unobjectionable.

NUMBER OF INTERMENTS AND CHARACTER OF THE SOIL.

The first burial in the cemetery was in 1848. On March 17, 1865, the cemetery was incorporated, and it has shown a steady growth for a number of years, about 150 interments being made yearly at the present time. Allowing for the number of removals there are now about 4,000 bodies interred within the cemetery, as shown by the books of the company.

The act of 1865, incorporating the cemetery, fixes its size as not to exceed fifty acres in addition to the area occupied at the time of the passage of the act. The entire area at present is estimated at thirty acres, while the interments are confined to an area of about eighteen acres.

The cemetery has recently been increased in size by an extension of nine or ten acres to the eastward of the old inclosure. The land annexed lies to the north of the Rockland College property, which is also bounded on the west by the cemetery.

There are at present no interments in the eastern annex referred to, and this land has not been improved to any great extent.

Upon the southerly slope of the cemetery the soil is composed of gravel, underlaid with hardpan, at a depth of five or six feet, and with trap-rock, which latter crops out on the surface in one or two places. In the newly-annexed portion, the land slopes more gradually, and is of a more moist and springy character than in the old portion.

Interments are usually made at a depth of five feet. In the deeper gravel near the southern limit of the cemetery, bodies seem to be entirely decomposed and to disappear after fourteen or fifteen years. The graves are well drained in all parts of the cemetery now occupied. To provide effectual drainage in the new part a small pond is to be excavated in the lower portion, the surplus water from which will be removed by drains or by evaporation.

UNSANITARY CONDITIONS.

At the present day there is, on the part of sanitary authorities, no doubt regarding the injurious effect of cemeteries upon the public health.

The pollution of water is a great and manifest evil. In the case of Oak Hill Cemetery there is good reason to believe that the water in the various wells in its vicinity has been brought into contact with the bodies of the dead, and holds organic impurities in solution. The water may not be rendered at all turbid by such organic matters and they may not affect its taste, unless present in large quantities, but chemical or biological analysis will generally reveal the truth regarding the suspected contamination.

Three samples of water accompany this report; they are all of apparent purity, but from the nature of the surroundings of the wells which furnished the water, there is great reason to apprehend that it is in every case impregnated with the liquids and soluble matters of decomposition.

Sample No. 1 is from the well of the Rockland College. This well is thirty-seven feet in depth. From its location it may be contaminated both with cemetery and privy drainage.

Sample No. 2 is from a spring of remarkable clearness about seventy feet from the north shore of the ice-pond. The surface of the water in the spring is three feet above that in the pond, and the water is three feet deep in the spring.

Sample No. 3 is from a well in the south-western part of the cemetery inclosure.

A large part of the cemetery drainage must find its way into the ice-pond. The use of ice from the pond should certainly be confined to the refrigerating operations of brewers, or to other uses where it may be kept from actual consumption by human beings.

In Paris, a law forbids the sinking of a well within 300 feet of a cemetery; in some parts of Germany the same distance is fixed as the minimum allowable, while cases are known to exist where 200 yards has proved an insufficient distance to guard against contamination.

Under ordinary circumstances water contaminated with decaying substances will merely have the effect of lowering the vital powers and of increasing susceptibility to disease, but water contaminated with drainage from the bodies of the dead may be loaded with specific poisons and with the germs of disease. Instances are recorded where the use of such water has occasioned frightful epidemics.

The gaseous products of decomposition may readily be drawn into houses adjoining a cemetery, especially during the winter when the ground is frozen on the surface. The artificial heat within dwelling-houses then tends to create a suction and in-draught of air from the sub-soil. The soil of a graveyard has been known to be so completely filled with carbonic acid and other gaseous products of decay that the heavier gases accumulated in newly-made graves with such rapidity as to endanger the lives of those employed to dig them.

The fœtid air exhaled from graves, even when dissipated by the wind, may lower the vital powers of those daily exposed to its influence.

It is, therefore, strongly to be desired that the mouldering remains of the dead should be removed as far as possible from dwelling-houses. The congress of hygiene at Brussels recommended that an interval of at least a quarter of a mile should separate a cemetery from any habitation.

The further extension of Oak Hill Cemetery must be deplored on sanitary grounds; it is now much too close to many dwelling-houses for the safety of their occupants, while the continual addition to the number of those buried within its limits gives assurance that the water and the air are daily receiving new burdens of decay.

The interests of health demand that cemeteries shall be placed at remote distances from dwellings and that their use be promptly discontinued whenever it is discovered that the abodes of the living are crowding upon those of the dead.

The forces of nature will at length cleanse the soil of graveyards and the atmosphere around them, if the decomposing matter is not continually replenished. It is wise to look to the future, anticipating the growth of villages and cities by gradually discontinuing the use of cemeteries near their limits. The growth of vegetation in such abandoned burial places will eventually purify them so that, maintained as public parks, they may become conducive to health and beneficial to adjoining property.

Very respectfully yours,

HORACE ANDREWS,

ALBANY, *November* 2, 1885. *Civil Engineer.*

Water Analysis.

ALBANY, *November* 11, 1885.

Dr. A. L. CARROLL:

DEAR SIR — Upon biological analysis of specimens of water sent to me from Nyack, N. Y., Nov. 1, 1885, collected by H. Andrews, I report as follows:

LOCALITY	Date of culture.	Time of first appearance of micro-organisms.	Time of beginning of liquefaction of gelatine.	Extent of liquefaction of gelatine in five days.	Observations.	Parts of chlorine in 100,000.
No. 1. Well water, Rockland Seminary..	Nov. 2..	36 hours..	3d day..	Entirely destroyed	The colonies of bacteria were very numerous; developed rapidly and liquefied the gelatine very quickly and consumed the whole mass	1
No. 2. Spring water, near ice pond........	Nov. 2..	36 hours..	3d day..	Entirely destroyed	The colonies of bacteria were very numerous; developed rapidly, and liquefied the gelatine very quickly and consumed the whole mass...............	1.10
No. 3. Well water, near barn, Oak Hill Cemetery	Nov. 2..	36 hours..	3d day..	Entirely destroyed	The colonies of bacteria were very numerous; developed rapidly, and liquefied the gelatine very quickly and consumed the whole mass	1.15

POTABLE WATER SUPPLY.

The following law was passed by the Legislature in the interest of many localities suffering from the pollution of the sources from which they derived their potable water supplies, by parties living beyond the jurisdiction of the localities affected:

AN ACT to confer upon the State Board of Health power to protect from contamination, by suitable regulations, the water supplies of the State and their sources. Passed June 13, 1885; chapter 543, Laws of 1885.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. The State Board of Health is hereby authorized and empowered to make rules and regulations for protecting from contamination any and all public supplies of potable waters and their sources within this State. Provided, however, any such rule or regulation shall not be operative in any county until the county judge of that county shall approve the same.

§ 2. The said State Board of Health shall also have power, and it shall be its duty: 1. To publish once a week, for at least six consecutive weeks, all such rules and regulations as it shall have made concerning the contamination of any sub-soil waters, springs, streams, lakes, ponds, reservoirs, or other bodies of water contributing to the potable water supply of any municipality within this State, such publication to be made in one or more newspapers published in the county in which the waters affected by such regulations are located. The cost of publishing the regulations of the State Board of Health, as above provided, shall be paid by the corporation or municipality benefited by the protection of the water supply, concerning which the rules are made. 2. To impose penalties for the violation of, or the non-compliance with, their rules and regulations, not exceeding two hundred dollars in any one case.

§ 3. The officer or board having by law the management and control of the potable water supply of any municipality, in all cases where the said municipality derives its water supply in whole or in part from any sub-soil water springs, streams, lakes, ponds, reservoirs, or other waters concerning which the State Board of Health shall make any rule or regulation, is hereby authorized and empowered to make such inspection of the sources of said water supply as said officer or board may deem advisable to secure the said water supply from any defilement, and to ascertain whether or not the rules and regulations made by the State Board of Health are complied with.

§ 4. In case such inspection shall disclose the violation by any person or persons of any of the rules or regulations of the said State Board of Health relating to the sources of said water supply, the officer or board mentioned in section three of this act shall serve or cause to be served a copy of the said rules and regulations, accompanied by a notice specifying the rule or regulation claimed to have been violated, upon the said person or persons violating such rules or regulations. If the person or persons so served do not immediately comply with the said regulation, the said officer or board having charge of the water supply of the municipality affected thereby shall notify the State Board of Health of the violation of its rules:

the State Board of Health shall thereupon examine into the said violation, and if the party complained of is found to have actually violated any of the said regulations, the Secretary of the State Board of Health shall order the local board of health having jurisdiction thereof to convene and enforce obedience to the said regulation.

§ 5. In case any local board of health having jurisdiction thereof fails to enforce the order of the Secretary of the State Board of Health within ten days after the receipt of a notification so to do, as provided in the last section, the corporation furnishing the water supply, or the municipality deriving its water supply from the waters for the sanitary protection of which such rules have been made, is hereby authorized and empowered to maintain an action in a court of record and which shall be tried in the county in which the cause of action arose against the person or persons violating the said rules for recovery of the penalty therein provided.

§ 6. Every person who shall willfully violate or refuse to obey any rule or regulation made and published by the State Board of Health, and approved pursuant to the provisions of this act, shall be guilty of a misdemeanor, and on a conviction thereof shall be subject to a fine or imprisonment, or both, at the discretion of the court, such fine not to exceed three hundred dollars, nor such imprisonment six months. But the recovery of a penalty in a civil action, as provided in section five of this act, and criminal prosecution and conviction under the provisions of this section, shall not be had for the same offense.

§ 7. When the State Board of Health shall, for the protection of a water supply from contamination, make regulations, the execution of which will require the providing of some public means of removal or purification of sewage, the municipality or corporation owning the water-works benefited thereby shall, at its own expense, construct and maintain such works or means for sewage disposal, as shall be approved by the State Board of Health.

§ 8. The State Board of Health, any local board of health, or any municipality or corporation furnishing water, may cause the affidavit of the printer, publisher, or proprietor of any newspaper publishing the rules and regulations as provided by the second section of this act, to be filed with such rules as published in the clerk's office of the county in which the municipality or corporation furnishing the water supply in any case may be situated or located, and such affidavit and rules, or duly certified copies thereof, shall be deemed conclusive evidence of due publication and of all the facts therein stated in all courts and in all proceedings or prosecutions under the provisions of this act.

§ 9. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

§ 10. This act shall take effect immediately.

Under the above act, rules and regulations have been made as hereinafter specified:

RULES AND REGULATIONS FOR THE SANITARY PROTECTION OF THE WATERS OF HEMLOCK LAKE, THE PUBLIC POTABLE WATER SUPPLY OF THE CITY OF ROCHESTER.

Privies adjacent to the Lake.

RULE I.

Section A. All houses, cottages, tenements, tents, camp and pic-nic grounds, adjacent to the shores of Hemlock lake, shall be provided with, at least, one privy, which shall be placed upon the ground, without any vault beneath it, and shall be so constructed that metallic pails, fifteen inches high by fourteen inches in diameter, can be placed under the seats and be frequently and easily removed with their contents.

Section B. The privies shall be so located that access to them from the lake may be had, for the purpose of facilitating the removal of the pails.

Section C. Occupants of the premises should daily add earth or ashes to the contents of the pails, as a deodorizer and absorbent.

Section D. The owners and occupants shall also exercise due care and oversight of the pails used in the privies.

Section E. When any privy is to be used in winter as well as summer it shall be so located and arranged that the pail may be replaced by a water-tight box or trough resting on solid runners or small wheels, and having a staple by which it may be drawn out from under the seat, or be otherwise so arranged that when the box is sufficiently filled, it may be taken from under the privy and the contents emptied in some safe place, where they cannot possibly be washed into the lake or into any stream running into the lake, or into any well or spring. Ashes should daily be thrown into the privy box as a deodorizer.

Section F. No owner or occupant shall have upon their premises any privy vault of any kind situated within two hundred feet of the shore of Hemlock lake.

RULE II.

Section A. The city of Rochester shall furnish a sufficient number of pails, for the use of each privy situated within two hundred feet of the shore of Hemlock lake, and shall cause the pails to be placed under the seats, and to be removed, emptied, cleansed and disinfected as often as may be necessary to insure that they are kept in good sanitary condition.

Section B. When a full pail is removed from a privy, its place shall be immediately supplied by an empty one.

Section C. The pails shall be made of metal, and shall be fifteen inches high by fourteen inches in diameter, outside measurement. They shall be provided with covers, to be used during removal.

Section D. The removal of the pails from the privies shall be conducted in such a manner as to cause as little inconvenience or annoyance to the occupants of the premises as is compatible with proper management of the business.

Section E. The contents of the pails shall be removed by the city of Rochester to some point below the foot of the lake, and be so treated and disposed of as to cause no nuisance nor danger to the public health.

Privies near Streams, Springs or Water-courses on Hemlock Lake Water-shed.

RULE III.

Section A. No privy shall be located within thirty feet of any stream, spring or dry water-course, the water from which, when running, empties eventually into Hemlock lake.

RULE IV.

Section A. Any privy situated within fifty feet of any stream, spring or dry water-course, on the water-shed of Hemlock lake, or within fifty feet of the bank of any ravine on this water-shed shall be constructed without a vault, and shall have under the seats half barrels, tubs, pails, or water-tight boxes or troughs arranged to be easily and frequently removed, emptied, cleansed and returned to their place, under the privy seats. Ashes or dry earth should daily be used in these privies as a deodorizer and absorbent.

RULE V.

Section A. The owners or occupants of premises having privies with tubs, pails or boxes, shall cause the contents to be removed and the receptacle to be cleaned as often as is necessary to keep the privy in good sanitary condition.

Section B. The contents of the said privies shall be disposed of in such a manner that they can by no possibility be washed into any stream, dry water-course, ravine, spring or well, either over the surface or through the sub-soil, and the excremental matter shall be so placed as not to cause an offensive nuisance.

RULE VI.

Section A. If, owing to the porous character of the soil, the height and flow of the surface or sub-soil waters, the steepness of the slopes, or other conditions of the locality, it shall be the judgment of the local board of health, or of the State Board, that the excremental matter from any privy may be washed on the surface or through the soil into some neighboring spring or water-course, then, after due notice to the owners or occupants of these premises, their privy shall be made to conform to the rules governing privies, situated within fifty feet of water-courses.

Garbage.

RULE VII.

Section A. The owners or occupants of all houses, cottages, tenements, tents, camp and pic-nic grounds, within two hundred feet of

Hemlock lake, shall place all garbage produced on their premises in such receptacles as may be provided therefor by the city of Rochester.

Section B. No garbage shall be thrown into the lake, or upon the ground within two hundred feet of the lake, nor shall it be thrown upon any spot where it may possibly be washed into the lake.

RULE VIII.

Section A. The city of Rochester shall provide proper receptacles for receiving the garbage produced on all premises within two hundred feet of Hemlock lake, and shall cause the same to be removed and emptied as often as may be necessary.

RULE IX.

Section A. All house slops, and sink and laundry water, produced on premises adjacent to Hemlock lake, shall be thrown upon the surface of the ground, and distributed so as to prevent concentration and saturation at one spot, but no such polluted water shall be thrown upon the ground within one hundred feet of the lake shore, or as near that limit as the depth of the lot will permit, nor into, nor near any spring, water-course or ravine.

RULE X.

No garbage or house slops, sink or laundry water shall be discharged into any stream, spring or dry water-course, on any part of the water-shed of Hemlock lake, nor shall any such putrescible or polluted waters be thrown upon the ground or into it, where they may pollute any spring, stream or water-course on this water-shed.

Animal Manures

RULE XI.

Section A. All stables situated within two hundred feet of Hemlock lake shall be provided by their owners or occupants with a tight and well-covered bin or box, in which all manure shall be placed, and from which it shall be removed as often as cleanliness may require.

RULE XII.

Section A. No stable, pig-sty, hen-house, barn-yard, hog-yard, hitching or standing place for horses, or other place where animal manure accumulates, shall be so constructed or located that the manure from it may wash into the lake or into any stream, spring or dry water-course running into the lake.

Manufacturing Waste.

RULE XIII.

Section A. No waste products, putrescible matters or polluted waters from any slaughter-houses, cheese factories, wine or beer vaults, cider-mills, tanneries, saw-mills or other manufactories shall be allowed to drain or wash into any stream, spring or dry water-course, or any part of Hemlock lake water-shed, or into the lake.

Animal and Vegetable Matters.

RULE XIV.

Section A. No dead animal, bird or fish, nor any filthy or impure matter, nor any decayed fruit, vegetable substances, leaves, saw-dust, roots, branches or trunks of trees in any condition of their growth or decay shall be thrown into Hemlock lake, or so placed by any person that they shall wash into the lake, nor shall they be thrown into any spring, stream or water-course running into the lake.

Washing Sheep or Animals.

RULE XV.

Section A. No sheep or other animals shall be washed in Hemlock lake, or in any influent stream within half a mile of the lake, nor shall any diseased sheep be washed in any spring, pond or stream on the water-shed of Hemlock lake.

RULE XVI.

Section A. In accordance with chapter 543 of the Laws of 1885, a penalty of $50 is hereby imposed upon any person or persons guilty of violation of or non compliance with any of the above given mandatory rules or regulations, to be recovered under said act.

Approved by order of the State Board of Health.

EDWARD M. MOORE, M. D.,
President,
ALFRED L. CARROLL, M. D.,
Secretary.

ALBANY, *July* 23, 1885.

Approved *August* 3, 1885.

FRANK RICE,
Ontario County Judge.

RULES AND REGULATIONS FOR THE SANITARY PROTECTION OF THE WATERS OF THE WEST BRANCH OF CANADAWAY CREEK, THE PUBLIC POTABLE WATER SUPPLY OF THE VILLAGE OF FREDONIA, N. Y.

Privies near Streams, Springs or Water-courses.

RULE I.

No privy shall be located within thirty feet of any stream, spring or dry water-course, the water from which, when running, empties eventually into the west branch of Canadaway creek above the reservoir of the Fredonia water-works.

RULE II.

Any privy situated within fifty feet of any stream, spring or dry water-course, on the water-shed of the west branch of Canadaway creek above the reservoir, or within fifty feet of the bank of any ravine on this water-shed, shall be constructed without a vault and shall have under the seats half barrels, tubs, pails, or water-tight boxes or troughs arranged to be easily and frequently removed, emptied, cleaned and returned to their place, under the privy seats. Ashes or dry earth should daily be used in these privies as a deodorizer and absorbent.

RULE III.

Section A. The owners or occupants of premises having privies with tubs, pails or boxes shall cause the contents to be removed and the receptacle to be cleansed as often as is necessary to keep the privy in a good sanitary condition.

Section B. The contents of the said privies shall be disposed of in such a manner that they can, by no possibility, be washed into any stream, dry water-course, ravine, spring or well, either over the surface or through the sub-soil, and the excremental matter shall be so placed as not to cause an offensive nuisance.

RULE IV.

If, owing to the porous character of the soil, the height and flow of the surface or sub-soil waters, the steepness of the slopes, or other conditions of the locality, it shall be the judgment of the local board of health, or of the State Board, that the excremental matter from any privy may be washed on the surface or through the soil into some neighboring spring or water-course, then, after due notice to the owners or occupants of these premises, their privy shall be made to conform to the rules governing privies situated within fifty feet of water-courses.

Garbage and House Slops.

RULE V.

No garbage or house slops, sink or laundry water shall be thrown or discharged into any stream, spring or dry water-course on any part of the water-shed of the west branch of Canadaway creek above the reservoir, nor shall any such putrescible or polluted waters be thrown upon the ground or into it, where they may pollute any spring, stream or water-course on this water-shed.

Animal Manures.

RULE VI.

No stable, pig-sty, hen-house, barn-yard, hog-yard, hitching or standing place for horses, or other place where animal manure accumulates, shall be so constructed or located that the manure from it may wash into the said creek or into any stream, spring or dry water-course, running into it above the reservoir.

Manufacturing Waste.

RULE VII.

No waste products, putrescible matter or polluted waters, from any slaughter-houses, cheese factories, wine or beer vaults, cider-mills, tanneries, saw-mills or other manufactories, shall be allowed to drain or wash into any stream, spring or dry water-course on any part of the water-shed of the said creek above the reservoir.

Animal and Vegetable Matters.

RULE VIII.

No dead animal, bird or fish, nor any filthy nor impure matter, nor any decayed fruit, vegetable substances, leaves, saw-dust, roots, branches or trunks of trees in any condition of their growth or decay, shall be thrown into the said creek or into the reservoir, or so placed by any person that they shall wash into the stream or reservoir nor shall they be thrown into any spring, stream or water-course running into the creek above the reservoir.

Washing Sheep or Animals.

RULE IX.

No sheep or other animals shall be washed in west Canadaway creek or in any branch thereof above the reservoir.

The Reservoir.

RULE X.

The authorities in charge of the water-works shall as far as practicable keep the reservoir free from accumulations of vegetable matter and shall prevent the accumulation of decaying vegetable matter and animal manure on the hill slopes from which such matter may be washed directly into the reservoir.

RULE XI.

Section A. In accordance with chapter 543 of the Laws of 1885 a penalty of $50 is hereby imposed upon any person or persons guilty of violation of, or non-compliance with, any of the above given mandatory rules or regulations; to be recovered under said act.

Approved by order of the State Board of Health.

EDWARD M. MOORE, M. D.,
President,
ALFRED L. CARROLL, M. D.,
Secretary.

REPORT UPON THE SANITARY CONDITION OF THE TOWN OF HARRISON, WESTCHESTER COUNTY.

To the Chairman of the Committee on Sewerage, Drainage and Topography of the New York State Board of Health:

SIR — I herewith submit the following report respecting the cause of complaint made by parties residing in the town of Harrison, Westchester county.

For the past few years the department of public works of the city of New York has been negotiating for land and has constructed the works necessary to supply the extreme northern part of said city with water. As a part of the plan adopted the two Rye ponds or lakes, forming a portion of the northern boundary of the town of Harrison, are to be used as a storage reservoir. The elevation of the surface of these lakes, which are said to be quite deep, is about 300 feet above mean tide. The department of public works had several laws passed to enable it to legally obtain control of the necessary land and water rights; had a commissioner appointed to appraise the value of such lands and paid all claims for land and damages before beginning the excavation of said works, so there can be no doubt but that the dealing of the city with the land-owners has been fair and legal, and that all property taken has been well paid for.

The department of public works has constructed a dam of earth and masonry at the outlet of Little Rye lake to enable it to raise and lower the water through a range of 16.6 feet, as allowed by law, and has purchased sufficient land around the lakes to allow of raising the water 3.5 feet higher. This dam was constructed last year, work being continued until the latter part of December, when it was closed, owing to severe weather. It was the necessary changes of level of these lakes during the construction of this dam and the causeway at the foot of the larger lake that produced the malaria complained of. The larger lake was raised until the flat land at the east end and at one or more places on the south side were overflowed.

It was found necessary to draw the lake down in June, leaving the recently covered flats, which formerly had been covered with trees, brush and grass, now dead or dying, owing to the action of water, exposed to the hot sun for some time, when the lake was allowed to fill, only to be again drawn down in the hot weather of September. As a result, the action of the sun on the decomposing vegetable matter filled the air with malarial poison, and the people to the number of one hundred or more, living on the east and south sides of said lakes, who had previously experienced no such malady, were stricken with miasmal disease in the forms of ague, low fever and dysentery.

A dread of a recurrence this year of the causes leading to this scourge led to the complaint made.

There are few residents north of the lakes within a mile, and they are cut off by quite a high rocky ridge. The majority live to the east and south of said lakes, many of those suffering from this source of malaria living over the line in the State of Connecticut, which, as inclosed sketch shows, lies near the east end of Big Rye lake. All families residing within a mile of these lakes on the east and south sides of the same were in part or wholly affected with malaria. These people are for the most part highly respectable, many of them Quakers, and nearly all owning valuable real estate. The average assessment value of the land in the town of Harrison, which contains no villages, is over $100 per acre, at least one-half of which is owing to the desirability of the locality for the residences of the people doing business in New York city. Should this source of malaria be maintained it will detract largely from the value of land for suburban residences. These lakes formerly were not only very attractive but desirable places of resort, and the experiences of last year detract very much from its reputation as a healthy locality.

The soil is a sandy loam, with frequent outcroppings of rocks. The topography surrounding the lake basins is such that the fluctuating surface of the lakes within the limit given above will have no appreciable effect on the sub-soil water of the region. As will be seen from the sketch the summit of the water-shed to the south is very near the lakes, which are largely maintained by springs, the main supply being from melting snow and rains. At present the lakes are not drawn from and the water is about 2.8 feet below the spillway in the dam, so it is very doubtful if the lakes will rise to the legally authorized level this season.

On the flats between the lakes and at the east end the water at present is about two or three feet deep, while the tops of old brush, weeds, etc., rise above the surface.

REMEDY SUGGESTED.

I was informed, although not officially, that it is proposed to clean these flats of the vegetation this season. In my judgment, the interest of the consumers of this water demands that these flats be denuded of all the old turf to a depth of a foot or more in some swampy places; that the brush and stumps be removed and the banks maintained in a good sanitary condition. This would, in my opinion, remove largely, if not altogether, the cause of this complaint.

If, besides this, the department of public works would delay drawing the water down in the reservoir until late in the season, say October 1st, the cooler weather of that season would render the effect of the exposed flats (shown on sketch in red tints) less deleterious to the public health.

Respectfully submitted,

April 16, 1885.

O. S. WILSON, *C. E.*

REPORT OF COMMITTEE.

STATE BOARD OF HEALTH OF NEW YORK,
ALBANY, *June* 25, 1885.

To the Board of Health Town of Harrison, Westchester Co., N. Y.:

GENTLEMEN — In response to your petition requesting the State Board of Health to examine the sanitary condition of the town as affected by the alternate rising and lowering of the waters of Rye lake by the department of public works of the city of New York, Mr. O. S. Wilson was sent to make a careful inspection of the lake and its surroundings. A copy of his report is herewith transmitted. It appears that the city of New York have by direct legislative enactment procured the right to raise and lower the water at Rye lake through a range of 16.6 feet, and that in accordance with the act by which they have acquired this right a commission was appointed to determine the damage to the surrounding property from such action on the part of the city of New York; that the damages were determined by the commission and the full amounts paid. In the process of construction of the dam or dams at this lake last year the low lands, which were covered with a heavy growth of grass and vegetation, were twice covered with water, and twice the water was drawn down exposing these previously submerged lands with their decaying vegetation to the hot sun.

This was done once in June and once in September, and shortly after the exposure of these saturated lands to the action of the sun, it appears that two very serious outbreaks of malarial fever occurred. Such outbreaks of malaria have previously been unknown in this region according to the statements of the physicians of the town. It seems, therefore, more than probable that the fevers were due to the flooding of lands thickly covered with vegetation, causing the death of the plants which, on the drawing down of the water, decayed rapidly when exposed to the action of the sun.

Since the Legislature has given the city of New York by special statute the right to raise and lower this lake the State Board of Health has probably no power to prevent it. But the danger to health from this procedure can be very much lessened if the city of New York will thoroughly clean the vegetation and vegetable mould from the banks and bottom of the reservoir at least to low-water mark. This treatment of the pond bottom will not only be conducive to the health of the people, of the neighboring town, but will undoubtedly improve the quality of the water which is supplied to the city from Rye lake. It is not safe to allow this decomposing vegetable matter to remain in a reservoir, and our inspector was unofficially informed that the city intends to clean the reservoir as soon as practicable.

It is earnestly hoped that nothing will prevent the city authorities from carrying out this plan at an early day, since it is essential to the health of the people of the city of New York who drink the river water of Bronks and to that of the people who reside in the vicinity of the pond.

On behalf of the Board,
ERASTUS BROOKS,
Chairman Committee on Drainage, Sewerage and Topography.

REPORT ON THE POLLUTION OF THE WATER SUPPLY OF THE VILLAGE OF CORTLAND.

To the Committee on Drainage, Sewerage and Topography:

GENTLEMEN — In accordance with instructions from the committee I visited Cortland on the 17th of September, and having made arrangements with Mr. B. F. Taylor, president of the Cortland Water Company, I visited with him on the 18th, a large spring from which the village of Cortland derives its public water supply.

This spring is situated about a mile from the village. It is of remarkable size and volume. The spring or basin containing a number of springs is some four hundred and fifty feet long and from forty to sixty feet broad. The water is seen bubbling up from the bottom in many places and is also running in from under the banks.

A dam with waste-weir has been placed along the lower end of this spring or basin. The water is pumped from above the dam to the reservoir on a neighboring hill from which it runs into the village of Cortland.

At the time of my visit the pumps were not working, so that the total volume of water delivered by the springs was flowing over the waste-weir. The supply seemed ample for a population larger than that of Cortland, which is now over 7,000.

The water-works were built by an incorporated company called the Cortland Water-Works Company which furnishes water to the village under a contract made with the authorities. The greater part of the spring basin belongs to the water-works company, but a small portion of it is on the land of Mr. Fairchild. That part of the basin belonging to the water company has been thoroughly cleared out, leaving a perfectly clean bottom, and the sides have been walled in a very creditable manner.

A small part of the basin on the property of Mr. Fairchild contains a number of springs. This part of the basin is not clean or properly protected from pollution. The bottom and shores are partly covered with muck, decaying wood lies either in the waters or close to the water's edge, a part of the border is in a swampy condition, and animal manure is both in the water and immediately on the shore in considerable quantities. The lot on which this spring is situated is used as pasture for from ten to fourteen head of cattle. They come to this spring to drink, trample up the muck on the borders and the bottom of the spring, and their droppings often fall either into the water or on to the immediate shore, where they may readily pollute the spring.

It is at once evident to anybody visiting the spring that there is quite a large amount of animal and vegetable matter in the spring and on its borders, the decay of which pollutes the water to a greater or less extent.

The water of this part of the spring flows directly down the basin and in about three hundred feet enters the pipes of the water-works company. The perfect cleanliness of that part of the basin belonging to the water-works company makes the defilement of that part on Mr. Fairchild's property most evident and disgusting. That the spring is polluted is apparent to the most casual observer. This state of things is injuring the public health of Cortland in two ways: The pollution of the water with decaying wood and leaves, with muck into which cattle are constantly tramping with manure, and with manure and urine as well as with constantly decaying aquatic vegetation which is fostered by those conditions; such pollution, I repeat, undoubtedly contaminates the water and injures it, from a sanitary point of view, for public use in the village of Cortland. But conditions which are so repulsive to the senses and so evident to any one visiting the spot have such an effect on the minds of the people that hundreds are doubtless deterred from taking water from the public water supply and continue to drink well water, which is of very doubtful purity in the village of Cortland.

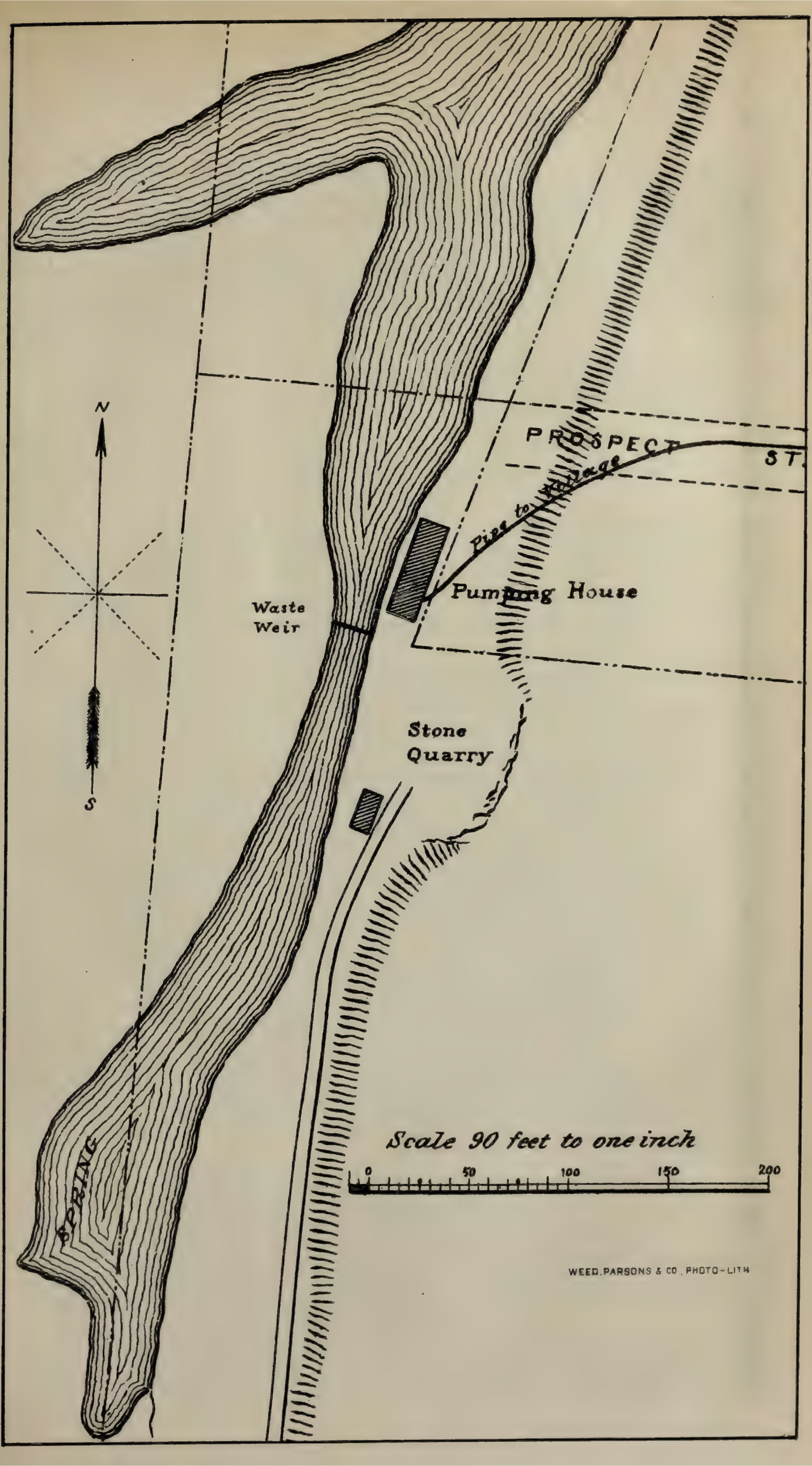
The pollution of the stream is thus acting as a source of injury to the health of the citizens of Cortland, by causing many of them to continue to drink from contaminated wells when if the springs were kept pure they would undoubtedly prefer the public water supply.

For these two reasons — first, because of the actual pollution of the water, and secondly, because many are influenced to continue to drink well water, by reason of the repulsive character of the pollution — the condition of the spring on the property of Mr. Fairchild is in my judgment a nuisance detrimental to the health and lives of the citizens of Cortland.

It does not appear to be in any way necessary for the enjoyment by Mr. Fairchild of the use of his pasture that this spring should be kept in its present foul condition. Four hundred feet from the spring above spoken of is another spring in the same pasture, at which cattle can easily drink; and the president of the water company informs me that the company have offered to put up a watering trough near the present spring to keep it perpetually supplied by a small pipe from the pumps of the water-works company. Such an arrangement was made with the owner of the other half of the spring, and I saw the watering trough which they had built and it seems to be answering every purpose for the watering of cattle in the adjoining pasture.

In order that the spring which supplies Cortland with water shall be kept in perfect sanitary condition it will doubtless be necessary that the water-works company should obtain the right to clean and protect from defilement the immediate banks of the spring from which decaying matter may be washed into the basin.

The public then can hold the water company responsible for maintaining the purity of the supply. The water-works company allege that they have endeavored to purchase this right or rather to purchase so much of the land about the spring as is necessary to secure this privilege, and that the owner refuses to make any reasonable terms for the land.



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The difference between these parties as to terms should not be allowed to be a source of serious injury to the public health of the village of Cortland. Rather than allow the continuance of the present condition of things it seems desirable that in the interest of the public health a judicial determination of the value of this property should be made as speedily as possible and the existing nuisance abated.

Very respectfully,
JAMES T. GARDINER,
Consulting Engineer.

REPORT OF THE COMMITTEE ON DRAINAGE, SEWERAGE AND TOPOGRAPHY.

A petition having been forwarded by a number of citizens of the village of Cortland, complaining that a spring which furnishes the public water supply was being contaminated, and asking for an abatement of the nuisance, Consulting Engineer Gardiner was directed to make an examination and to report the condition of the water supply and to make such recommendations as the conditione seemed to require. On the 17th and 18th he visited Cortland, and his report is herewith appended with the approval of the committee.

It appears that the source of the water supply of Cortland is from a basin some four hundred and fifty feet long, containing a large number of springs; that the greater part of this is on land belonging to the water-works company, while a small portion belongs to a private owner, with whom the company have not been able to come to terms as regards purchase; that part of the spring which is the property of the water-works company has been thoroughly cleaned and protected from defilement on the banks; and that the part which is the property of a private owner is polluted with decaying wood, muck and animal manure. It is the drinking and standing place for from ten to fourteen head of cattle. The spring is, therefore, defiled with both animal and vegetable matters. The evident and offensive character of this pollution acts in two ways to the injury of the public health of Cortland. It actually contaminates the water, and being a matter of public notoriety, it so affects the mind of the people that great numbers are deterred from taking the public water supply and forced to continue drinking from wells, many of which are doubtless polluted.

This state of things undoubtedly makes the condition of the spring on Mr. Fairchild's property a nuisance dangerous to the health and life of the people of Cortland. We, therefore, recommend that the condition of that part of the spring situated on Mr. Fairchild's property, the water from which flows into the public water supply of the village of Cortland, be declared a nuisance.

We further recommend that in order that the public may be able to hold the water-works company responsible for the purity of the supply, that the water-works company should acquire the right to clean and protect from pollution the spring and its immediate banks, and that in case the parties in interest are not able to agree upon terms for the acquiring of this right, that in the interest of the public health a judicial determination of its value should be made as speedily as possible.

ERASTUS BROOKS,
Chairman, Committee.

At a meeting of the State Board of Health on September 24th, at Albany, the above report was presented, and, on motion, adopted by the Board, its recommendations approved and a copy ordered transmitted to the parties interested.

ALFRED L. CARROLL, M. D.,
Secretary.

REPORT

ON THE

PRACTICAL OPERATION OF THE SEPARATE SYSTEM OF SEWERS.

The experience of the committee on drainage, sewerage and topography of the State Board of Health, during the past two years, has shown that the great obstacle to the introduction of sewerage systems into the villages and smaller cities of the State is the anticipated cost. While there are localities in many of the villages which at certain seasons suffer from accumulations of storm-water upon the surface, the evils arising from this source are as nothing compared with those that are due to the accumulations of sewage, including excremental matter and slops in the privies, cess-pools and gutters about the dwellings.

The sanitary problem usually presented is, to provide some cheap and effective method of carrying away the sewage proper from the villages, and disposing of it in such a way as not to create a nuisance. In other words, the accumulation of filth in the ground and on the ground around the dwellings of people must, if possible, be prevented. In the experience of the State Board of Health, the cheapest effective way of accomplishing this purpose is usually by the separate system of sewerage combined with subsoil drains for drying the cellars and sub-soil.

While the separate system of sewerage has many advantages from the economical and sanitary standpoint, it is comparatively new, and it has been felt that its practical operation could not altogether be foreseen. Difficulties would probably arise in practice which would have to be overcome by new devices. That the Board might be thoroughly informed on the practical working of the separate system in places where it has been tried for several years, Horace Andrews, C. E., was sent to the city of Keene, New Hampshire, and to Staten Island, to examine into the operations of the system in the light of the experience at these places. His report is herewith appended, and it is believed that the facts therein given may be valuable, not only to this Board but to the local authorities who are considering the question of introducing the system of separate sewers.

In general, the result of Mr. Andrews' inquiries shows that the working of the separate system has been eminently satisfactory, and that no practical difficulties of any magnitude have arisen in the operation of these small sewers, either in Keene, on Staten Island or at Rockaway.

The city of Schenectady has been contemplating for several years the building of a system of sewers. Prof. Cady Staley, professor of civil engineering in the Union University, made a careful study of the working of the separate system in many places in this country, and as a result advised the city to adopt it. He was directed to make complete plans and specifications for a separate system of sewers in Schenectady, and the contract to build the sewers, according to these specifications, was let to Mr. B. Van Vranken, of Schenectady, in 1884.

We have appended to this report the specifications drawn by Prof. Staley, and also the bids of fifteen different contractors on these specifications. The specifications and bids are given for the information of the Board, and of localities and engineers specially interested.

REPORT ON THE PRACTICAL OPERATION OF THE SEPARATE SYSTEM OF SEWERAGE.

JAMES T. GARDINER, Esq., *Chairman of Committee on Drainage, Sewerage and Topography:*

SIR — In accordance with your instructions I have examined into the working of the separate system of sewerage at Keene, New Hampshire, and at New Brighton and Rockaway in this State. I have endeavored to ascertain not only the thoroughness with which the system of sewerage accomplishes its object, but also to discover whatever defects exist and the methods that have been proposed for their remedy.

I wish to acknowledge my indebtedness for information furnished me through the courtesy of the Hon. Horatio Kimball, mayor of Keene, and Mr. D. H. Sawyer, the superintendent of the sewerage at the same place, and also to Mr. C. T. Barrett of West New Brighton, Staten Island.

THE SEPARATE SYSTEM OF SEWERAGE.

The separate system of sewers is now generally understood to mean that system which has for its object the removal of all waste-water except that furnished by rain and melted snow. The system may or may not carry the water draining from the sub-soil, but all storm-water is to be carefully excluded.

In the modern separate system as used in this country there are several essential features:

First. The pipes carrying sewage must be of small size, in order that a constant and rapid flow may exist in them and that accumulations of solid matter obstructing the sewers and generating gases may be prevented. It is also desirable to keep the pipes of small size in order that the water used in flushing them may thoroughly cleanse their entire inner surface.

Second. Automatic flushing-tanks are placed at the end of each line of pipe and are arranged to discharge a large quantity of water into the sewers at intervals so as to cleanse them thoroughly.

Third. Perfectly free access of air to the sewers is essential not only to ventilate them, but that the sudden rush of water from the flushing-tanks may not draw the water from traps in houses or force air through them.

There are various accessories to the system, but wherever the separate system is in use in this country the above requisites are regarded as essential.

The details relating to the separate system have already been fully described in the reports of the State Board of Health, and it will be only necessary to treat of them incidentally in referring to the practical working of the system.

SEWERAGE OF KEENE, NEW HAMPSHIRE.

This was planned as the result of a memorial, presented in June, 1882, to the city councils by the health commissioners of Keene, by Geo. E. Waring, C. E. The work was executed in 1882–3 by contract with the Drainage Construction Company under personal direction of John Bogart, C. E., of New York. The inspecting engineer employed by the city was L. M. Muzzey, C. E., of Boston. The system comprises the following lengths of pipe:

15 inch.	9,065 feet.	Contract price	$2 05	per foot.
12 "	3,441 "	"	1 61	"
10 "	1,178 "	"	1 34	"
8 "	2,742 "	"	1 06	"
6 "	44,806 "	"	90	"

Aggregate length, 61,232 feet.

The contract price given above includes all materials and expense of laying.

There are forty-four flushing-tanks holding from 140 to 150 gallons of water and capable of being discharged as often as once in six hours, if necessary. Each flush-tank completed cost $63; they were built with double walls having an air-space between to guard against freezing. Extra covers of wood have been provided within the iron covers as an additional protection against frost. Two inlets allow the water of Beaver brook to enter one of the fifteen-inch mains. These inlets were built at a cost of $100 each. There are two outlets, costing $200 each, and fifty-one man-holes, costing $40 each.

The full amount paid by the city for plans, construction, superintendence, land damages, fees, etc., was $79,688.85. The net deductions from the original contract price amounted to $8,414.30, certain streets where it seemed to the city authorities that no connections would be made for a number of years having been omitted from the general plan.

The surface formation in the city of Keene, embraced within the area covered by the sewerage is such as to naturally divide it into two distinct districts with separate outfalls for the sewers into the Ashuelot river. The Central district embraces the central and western portion of the city. The Beaver brook district embraces the eastern section.

The grade of the fifteen-inch main of the Central district averages one in 310, and the laterals have in general a grade of one in 250, though there are four or five short lines whose grade is about one in 400.

The main of the Beaver brook district has a grade of only one in 800, and for a few hundred feet from the outlet of only one in 1000; the laterals of this line have good grades, not less than one in 400.

In the original plan only six man-holes were provided on each district, but, as already mentioned, fifty-one were built at frequent intervals on the mains and at junctions of pipes where they seemed desirable.

The kinds of pipe used were the Boynton, of New Jersey, the Akron, the Portland and English and Scotch pipes. The amount rejected was nearly the same of each kind used, the Portland seeming a trifle the best.

Hand-holes, with loose covers extending about fifteen inches on the top of the pipes, were placed at about every 100 feet on the six-inch sewers, and about every third one of these is replaced by a stand-pipe rising to within a short distance of the surface. By means of the stand-pipes the flow of water at different points can be examined and the approximate position of any obstruction can be ascertained. Wherever curves were made in the pipes, hand-holes were placed at each end of the curve.

Carefully-selected cement was used in making the joints between sections of pipe, which were first calked with twisted oakum to prevent the entrance of the cement.

Sub-soil drainage is secured by means of drain-tiles, nearly round and non-porous, laid in two-feet lengths, the joints being wrapped about with two thicknesses of muslin. The tile-drains are laid alongside the sewer and at nearly the same grade; they enter the sewer-pipe, or a man-hole, about once in 300 feet.

During the construction of the sewer, Y branches for house connections were provided, and the fee of $5 is charged by the city for making such connection. Maps, carefully drawn on a large scale, enable the exact location of the stand-pipes, hand-holes and house connections to be readily ascertained. Distances from street corners and property lines to the stand-pipes, hand-holes, etc., are expressed in figures upon the maps. These maps are evidently quite essential adjuncts to the system of sewerage.

THE PRACTICAL WORKING OF THE SEPARATE SYSTEM AT KEENE.

The number of families to whom the sewers are now accessible is 720, besides seven manufactories and three hotels.

The entire population of Keene, according to the census of 1880, was 6,784.

Water-works were introduced at Keene in 1869, though the city was not incorporated until 1874.

The sewerage system is now in complete working order, it embraces every locality where it is called for and occupies some streets where it will be but little used for some time to come. The sewerage system was completed and accepted about September 1, 1883. On December 1st of the same year ninety-one permits to make house connections had been granted, and on January 1, 1885, the number had been increased to 213.

SEWER-PIPES.

The sewers are, in general, laid at the depth of six feet or more, not only to guard against frost, but to prevent them from interfering with the water-supply pipes, which are laid at a depth of five feet. No trouble has been occasioned by frost, and probably none would have occurred if the pipes had been somewhat nearer to the surface.

In Paris, where laid in earth, a depth of from two and one-quarter to four and one-quarter feet was thought sufficient to protect the sewers from frost.

Notwithstanding the great pains taken to prevent the intrusion of cement at the joints, in some places such partial obstructions were discovered while testing the pipes. No stoppage has been noticed from this cause, however, and in only one instance has there been any stoppage in the mains; this was in Dunbar street, and occurred from the lodgment of quicksand, supposed to have worked through faulty joints in the pipes. Two hand-holes were afterward added between Dunbar and Water streets to facilitate the removal of obstructions at any future time.

It has been noticed that when pipes are removed, which is sometimes the case in making house connections, they soon become very badly cracked and unserviceable. The cause of this cracking is not apparent, and the pipes do not seem defective as long as they remain in place and are not allowed to become dry. The defect mentioned is probably of little consequence at Keene, where frost cannot reach the pipes; but, as there is a considerable difference in the porosity of pipes and their impermeability is an important element in their durability, it would be well to carefully test them in this respect before accepting them. Some sewer-pipes will soak in as much as seven per cent of their weight of water, while others will absorb less than one-half of one per cent.

Roots of trees have been noticed in places inserting themselves into the joints, although they have occasioned no trouble at the present time. It would be desirable to take special precautions to prevent the intrusion of roots where the pipes are laid in the neighborhood of trees.

A very extensive growth of fungus has been observed in the sewer-pipes ever since they have been in operation, and it does not seem to be diminishing in amount. This fungus growth attaches itself to the sides of the pipe only, and it grows for the most part under the water, which flows rapidly through the pipes. In the man-holes, where the upper half of the pipe is removed, the fungus may easily be seen; it is quite soft and easily detached, and has not, thus far, been the cause of any obstruction in the pipes. Last spring the pipes were flushed with a large volume of water, by means of hose attached to the street hydrants, and the fungus was detached in great quantities. When the growth of fungus becomes of considerable bulk, it generally seems to be broken or dragged off by the rapid current from the flushing-tanks, and it is, therefore, hardly probable that it will ever become a source of trouble.

The frequent emptying of the flush-tanks, together with the flow of water from houses and sub-soil drains, keeps a stream of water constantly running in the mains. In the twelve-inch pipe on Davis street the volume of water was sufficient to nearly half fill it.

OUTLETS.

At the time of my visit both of the outlets were nearly three feet below the service of the water in the Ashuelot river; they consist merely of fifteen-inch iron pipes projecting a few feet from the shore and slightly inclined down stream. The system of the Beaver brook district receives the drainage of a tannery, which imparts a reddish tint to the water; the discolored water could be plainly seen pouring from the outlet of this system, while at the outlet of the Central district, where the fall is much more considerable, floating matters could occasionally be seen issuing from the mouth of the sewer. It was, therefore, evident that the three-feet head of water did not occasion any difficulty in the discharge.

During high water last spring, when the water rose over eight feet above the outlets, there was still no difficulty experienced in the discharge, though it was thought, when the plans were first made, that jet-pumps, which were to have been worked from the city water supply, would be required at the outlets.

There is a slight bend in the river at the Central district outlet, and last spring the bank at the outlet was somewhat disturbed by the current, which also washed sand in front of the outlet-pipe, yet it was found that the flow of sewage was sufficiently strong to preserve a clear opening through the sand that was heaped up in front of the outlet.

MAN-HOLES.

The man-holes are covered with close covers of iron, so that their function is not that of ventilation. Up to the present time the man-holes have been of use chiefly as a convenient means of inspecting the flow in the pipes. The experience of a number of years will be needed before a correct opinion can be formed as to the exact number of man-holes that are really necessary. An expenditure of about $1,560 was required to provide the thirty-nine man-holes not included in the original plan. It might have been more economical to have dispensed with these extra man-holes, even if their absence should render the removal of obstructions somewhat more difficult.

When high water occurs, the interior surfaces of some of the manholes in the lower part of the city become coated with filth, and it is necessary to give these a thorough cleaning when the water has permanently subsided.

FLUSHING-TANKS.

There are now forty-five flushing-tanks in use, one new one having been built in 1884, and one of the original tanks having been moved on account of the extension in Washington street.

Owing to precautions taken in building the tanks, and to the frequent disturbance of the water when they empty, there has been no trouble from freezing, even in the most severe weather.

Water is supplied to the tanks through a one-quarter-inch faucet, which is but partially opened. The tanks are filled in about eight hours, and their entire contents, about 150 gallons, are then discharged by a large bell siphon in about sixty seconds; this is equivalent to a discharge of two and one-half gallons per second.

If a six-inch branch pipe were perfectly clean and there were no house connections it would require nearly three gallons per second, to fill it entirely if it were laid with a grade of one in 300, or three and a quarter gallons per second, with a grade of one in 250. Since many of the laterals are laid with a steeper pitch than one in 250, it is probable that in some of these the flush does not entirely fill the pipe, still no trouble has yet been met with owing to insufficient flushing, and, except for the fungus growth, the pipes are kept in a clean condition and very little odor is perceptible in them.

The same difficulty in keeping the supply-cocks of the flushing tanks from being stopped by sediment has been met with at Keene, as at Memphis, Tenn., though to a less extent.

At Memphis it has been stated by Mr. Wm. H. Baldwin, who inspected the sewerage system in the spring of 1884, that the muddy character of the water furnished by the public works sometimes causes the supply-pipes to become stopped, and one man was employed almost exclusively for looking after the pipes supplying the flushing-tanks with water. The tanks are fed by such a small stream that the very unfit muddy water supplied has a tendency to silt them up and stop the flow. The inspector had to open the cocks full way and blow out the silt.

At Keene the visits of the inspector are made about once in two weeks, and although the purity of the water supplied generally is such that no stoppage occurs, still there have been occasions when one or two cocks were found to be clogged. Even with the purest water, sediment is to be feared when repairs are made in the water-mains, and the flushing tanks can then become inoperative.

A simple expedient has been proposed that would seem to be effective in preventing clogging of the faucets. This would consist in a float placed in the tank and so connected with the cock that the latter would be automatically turned on under full head when the water rose nearly to the top of the tank. Thus for a few minutes before the water was discharged from the tank the cock would be turned fully on and the sediment would be blown out before it had accumulated in a quantity sufficient to stop the flow altogether.

As the successful operation of the separate system is to a great extent dependent upon the efficiency of the flush-tanks, and, since in many cases very pure water would not be available for filling the tanks, some device for insuring the certain action of the latter, even with very muddy water, should certainly be perfected.

When the tanks are inspected in winter, at times when snow lies deeply on the ground, a bad place is sometimes made in the street, interfering with driving. It might, therefore, be desirable to place the tanks a little to one side of the traveled roadway.

At Keene the mains were thoroughly flushed last spring by turning water into the tanks from the street hydrants, a hose being used for the purpose. By this means the fungus growth was removed for the most part. It would be much more convenient at places where such extra flushing seems desirable to have an arrangement provided by means of which water could be turned into the sewer-pipes directly from the water-mains without the necessity of employing hose.

SUB-SOIL DRAINAGE.

The sewerage system at Keene has not yet been in operation for a sufficient length of time to enable a correct judgment to be formed as to the efficiency of the sub-soil drains.

A well-known authority has said: "In all works of sewerage in order to get their full benefit it is requisite that provision should be made for the drainage of the sub-soil. The mere fact of carrying out a system of sewerage and being obliged to cut through various strata of a more or less retentive character is naturally a means of securing to a great extent sub-soil drainage; but it is not well to depend entirely upon the intersection of various geological formations, as it has been shown that drainage works when first brought into operation, or during their construction have had greater effect in drying the sub-soil and in reducing the rate of death arising from phthisical disorders, than has been secured in after years. This may be accounted for from the fact that the drainage of the sub-soil was more perfect prior to the complete consolidation of the sewer-trenches than it has been subsequently." The earth with which sewer-trenches are filled is seldom as compact as it was previous to the excavation, sometimes a layer of gravel or sand is placed over the sewers, which should in that case be embedded in clay, and thus the sub-soil secures permanent drainage. At Keene the contracts specify that the filling over the sewer-pipes shall be of fine, dry earth.

It appears evident, therefore, that the efficiency of the tile-drains cannot be readily ascertained. At some places in Keene the sub-soil has been much dried and wells have failed since the sewers were built. This may be due to the sub-soil drains or merely to the digging of the sewer-trenches.

The actual amount of water flowing from the tile-drains, if it could be ascertained, would enable a judgment to be formed as to their efficiency. At Memphis where the sewers have been laid four years a very perceptible drying of the sub-soil is said to have taken place, but it is uncertain as to the amount of drying that can be ascribed to the tile-drains. It would certainly seem that agricultural tiles laid as at Keene would have some effect in diminishing the water in the sub-soil. It would doubtless be well to lay branches to the cellars when house connections are made with the sewers, especially where the houses are at some distance from the latter. If it is necessary to discharge the ground-water into the sewers it might with comparative safety be done at the man-holes where a gate could be provided to prevent the backing up of sewage during the continuance of high water, or in the event of the sewer-pipe becoming obstructed. At Keene there is certainly danger of sewage being forced up the sub-soil pipes in the lower part of the city, whenever the water is high in the river, and if the sewer should be obstructed the sub-soil might be extensively flooded with sewage before the obstruction was discovered and removed.

STORM-WATER.

Surface-water is removed at Keene partly by means of two sewers of large size, which formerly received a certain amount of house-drainage. These sewers follow lines of natural drainage, and although by special resolutions of the city council passed last summer, they can no longer be used as public sewers, they still relieve the ground of much storm-water. In parts of the village outside of the drainage area of these sewers, storm-water is for the most part carried off in ditches at the sides of the streets.

HOUSE CONNECTIONS AND GENERAL ADMINISTRATION.

In order to fully describe the methods adopted for making house connections, the precautions that have been taken to insure the perfect working of the separate system at Keene, and also the plans that have been there devised for the future administration of the system as regards its care and management, the following ordinance is quoted without abridgment:

An ordinance to regulate the house-drainage and the connections with the public sewers.

Be it ordained by the City Councils of the city of Keene, as follows:

SECTION 1. The general care and management of the new sewers now in process of construction by the Drainage Construction Company, in Keene, shall be vested in a board of water commissioners, after the same shall have been completed and turned over to the city, agreeably to the contract between said company and the city, and their power shall be subject to any limitations and restrictions contained now or hereafter in any ordinance, regulation or order of the city councils; and the members of said board shall receive such compensation for their services as may be determined by the councils, but they shall incur no debt against the city, except for necessary repairs and care, unless ordered by the board of mayor and aldermen.

§ 2. The person serving as superintendent of water-works shall also be superintendent of sewers, and he shall receive such additional compensation for his services as the councils may from time to time determine. Said superintendent of sewers shall have supervision of the construction and repair of all house-drainage, and after the completion of the original contract, shall superintend all repairs of said sewers and their connections; and he shall keep a description, with plans, of the sewer and connections, and an account of all expenses in his department, all under the directions of the water commissioners.

§ 3. Before any house-drain shall have been connected with said sewers, the owner thereof, or applicant, shall pay to the superintendent of sewers the following fees, viz.: For every house-drain, $5 for the connection. And all persons who have made such connections, or shall have made them before the completion of said sewers, shall pay said fees; and their connections, drains, etc., shall be subject to this ordinance in all respects, and the superintendent of sewers shall see that all such connections, drains, etc., conform to the requirements of this ordinance. All moneys collected by the superintendent of sewers shall be paid to the city treasurer twice a month, and the treasurer shall keep the same as a separate fund.

§ 4. No plumbing, house-drainage or connections shall be done or made in connection with the sewer by any person not licensed to do such work by the board of mayor and aldermen, under a penalty of $20.

§ 5. The following regulations shall govern the planning of all house-drainage and house connections with sewers:

1. For each building there shall be a separate connection with the public sewer of four-inch salt glazed vitrified pipe, which may extend from the sewer to within five feet of the house, and from thence the house-drain shall be of cast-iron pipe, satisfactory to the superintendent of sewers, and shall extend upwards, so that its upper terminus shall communicate directly with the open air in a manner which shall secure perfect ventilation. That portion of the soil or ventilation-pipe above all fixtures may be of material, and dimensions satisfactory to the superintendent of sewers.

2. No trap or any manner of obstruction to the free flow of air through the whole course of the drain and soil-pipe will be allowed.

3. Every fixture shall be effectually trapped. No sink-drain pipe shall be more than one and one-fourth inches in diameter.

4. No privy-vault or cess-pool shall be connected with the house-drain or sewer. When water-closets take their place, they shall be thoroughly cleaned out, and filled with fresh, dry earth.

5. No sub-soil drain shall be connected with the house-drain at any point, the house-drain being made and kept absolutely tight for

the removal of foul water without the least opportunity for escape into the soil; and drain-pipe, waste-pipe or rain-water conductors shall under no circumstances be connected with the house-drain.

6. Every water-closet shall be adequately flushed with water from a cistern above it; except that, where a cistern is liable to freeze, other methods may be permitted, provided that thorough flushing is secured. No closet shall be used which has a space between two water seals of more than 200 inches capacity, or which has such space of any capacity, every part of the walls of which is not thoroughly flushed and washed at each use of the closet. Every water-closet apartment shall have a direct means of ventilation into the open air.

7. All soil and waste-pipes shall be as direct as possible, and all parts of the work shall be so arranged that they may be at all times readily examined and repaired. Before the fixtures are placed in connection with the plumbing work of any house, and before the soil-pipe is connected with the drain, the outlet of the soil-pipe and all openings into it shall be hermetically sealed; the pipe shall then be filled with water to its top and every joint shall be carefully examined for leakage, and all leaks shall be securely closed before connections with the soil-pipe are made.

§ 6. All drain-laying, repairs and connections shall be made according to the following rules, and if any drain be constructed or repaired, or any excavation made for that purpose without a permit in writing from the superintendent of sewers, or in a mode different from that prescribed herein, the person doingsuch work and the owner or agent directing the same shall respectively be liable to a penalty not exceeding $20 and the person doing such work shall also forfeit his license for a period of six months.

Rules for Drain-Laying.

1. Before any connection with the public sewer is made, or any house-drainage put in, or any repairs on them, a permit must first be obtained and the plan proposed approved by the superintendent of sewers.

2. No pipes or other materials for drains can be used till they have been examined and approved by the superintendent of sewers. All the work must be inspected by him and done to his satisfaction.

3. In opening any street or public way, all materials must be placed where they will cause the least practicable inconvenience to

the public, and the whole inclosed with sufficient barriers and properly lighted at night from the beginning to the end of the work.

4. No street shall be opened until the Y branch of the sewer and the entire course of the drain to be laid shall have been precisely staked by the superintendent of sewers.

5. The least inclination that can be allowed for house drains is one in sixty, without the written permission of the superintendent of sewers.

6. In the "house connection" every joint shall be laid with gasket and cement, and bedded in hydraulic concrete at least four inches in depth. The house-drain and soil-pipe must be calked with lead so as to be both water and air-tight. All joints must be satisfactory to superintendent of sewers.

7. The ends of all pipes not to be immediately connected are to be securely closed water-tight, with imperishable materials. The inside of every drain, after it is laid, must be left smooth and clean throughout its entire length, and true in line and grade.

8. The back-filling over drains, after they are laid, must be puddled or rammed, all water and gas-pipes protected from injury or settling, and the surface of the street made good within forty-eight hours after the completion of that part of the drain lying within the public way.

§ 7. This ordinance is to take effect from its passage, with this reservation, to-wit: that nothing in it shall be construed in a sense that will relieve the joint standing committee on sewers and drains from the performance of certain specific duties in relation to the sewers during their construction as provided in a joint resolution passed January 18, 1883, nor to authorize any connection with the main sewer until the same is delivered to the city by the Drainage Construction Company as per terms of their contract.

Passed July 21, 1883.

There are different opinions as to the advisability of dispensing with the running traps in the house-drains; if they are not used the inhabitants should certainly be warned of the dangers that may arise from defective traps, dangers that will be considerable with the separate system, for, if the water-seal is once broken, the air from the house-drains and sewers will be forcibly driven into the houses whenever the flushing-tanks are discharged.

When a house is to be left vacant for several weeks, it would be well to require the occupants to apply to those in charge of the sewerage system, that they may cause the traps to be filled with crude oil or glycerine that thus evaporation may be prevented. If the matter should be left to the attention of the occupants themselves, it would very probably be disregarded, or some unsuitable oil, like kerosene or linseed, would be used as the only cheap article readily obtainable.

Grease-traps are regarded as desirable adjuncts, but their use is not compulsory at Keene, as it is thought that stoppages will occur in the four-inch house-drains before the sewers become seriously obstructed. Only one house-drain has been stopped, as yet, and that was from a mass of coffee-grounds, tea leaves and grease. There were no water-closets in the house in which the stoppage occurred, and no means of thoroughly flushing the drain.

COST OF SEWERAGE SYSTEM AND EXPENSE OF MAINTENANCE.

Allowing for the usual increase of population, the city of Keene should have had about 7,100 inhabitants in 1884. A debt of $70,000, with interest at four per cent, was incurred for the construction of the sewers, to meet the interest of which, a tax of $2,800 per year is levied. The principal of the debt is to be paid off, in four installments of $15,000 each, in 1905, '6, '7, and '8 and the remaining $10,000 in 1909.

During the year ending December 1, 1884, the entire cost of extension and maintenance was $1,161.29.

In 1884 there were 1,795 polls; the rate of taxation was $1.15 per $100, and the total valuation of the city was $5,922,013.

It is, therefore, evident that the construction of the sewers has not imposed a very heavy burden upon the tax payers, since the debt could now be paid by a tax of $1.18 per $100, while the actual cost of maintenance during 1884, amounting to $678.04, would have been covered by a tax of less than twelve mills per $100.

The general sentiment, at Keene, is one of satisfaction regarding the operation and expense of the sewerage system.

EXPERIENCE WITH THE SEPARATE SYSTEM AT NEW BRIGHTON AND AT ROCKAWAY.

Although at these places the separate system has not been used on a large scale, an account of its practical operation will be of interest since this system is said to be especially adapted for small villages and hamlets or even for groups of houses of very limited number.

At New Brighton two lines of pipes, without laterals, are in use. Both of these lines were designed to serve as mains, and they were of such a size as would accommodate a large number of houses.

One line of pipes is 3,700 feet long; it has at places an inclination as small as one in 400. At the outlet this pipe is nine inches in diameter, diminishing to eight inches and then to six inches. There is one flushing-tank at the end of this line discharging 120 gallons once every three or four hours; only about forty houses have made connection with the sewer on this line.

The second line of sewers at New Brighton is 4,000 feet in length without laterals, and of four, five, six, seven and eight inches in diameter, increasing toward the outlet. A flushing-tank has been also placed at the end of this line, and it is the design to place a second one at the commencement of the eight-inch pipe.

Man-holes have been placed at intervals along the lines of sewers; these have gratings over them so as to admit the air freely. It is doubtful whether open covers to the man-holes are advisable for the purpose of ventilation, as they will serve to prevent the air from being drawn through the soil pipes in the houses when the flushing-tanks discharge. The pipes in the separate system of sewers are probably in less need of ventilation than the soil-pipes of the houses. The metropolitan board of works of London, as the result of their experience during twenty years, have said that "the most efficacious mode of preventing the escape of offensive effluvia from the sewers is to provide them with such a copious supply of water that the decomposing matter within them shall be diluted and removed before any noxious gases have been generated;" this is precisely what is done in the separate system, but from the nature of the case a like effectual flushing cannot be given to the soil-pipes. Where running-traps are dispensed with, as at New Brighton and Keene, the frequent flow of air through the soil-pipes, from the suction produced by the water discharged from the flush-tanks, is probably as effective a method of oxidizing the filthy matters in the house-drains and soil-pipes as can be readily devised; hence the covers of the man-holes should be tight, so as to render the draught through the soil-pipes as powerful as possible.

Only one stoppage has occurred in the pipes, and that was from a tomato can, which might easily have been kept out of the pipe with proper care.

Sub-soil-pipes were laid in the same trenches with the sewer-pipes, but entirely independent from them. Difficulty was experienced in laying the sub-soil-pipes from the intrusion of earth; especially if heavy showers occurred unexpectedly, when large quantities of earth would be washed into the pipes. No branches were led up to the cellars from the sub-soil-pipes. Large grease-traps placed outside of the houses, and ventilated by special pipes running up to the roofs, are used to some extent, and are said to be efficient in preventing grease, etc., from passing into the house-drain.

Drains from the cellars leading directly to the sewers have been proposed, but these would have to be provided with a gate to prevent sewage from backing up when an obstruction occurred in the pipes, and the end of the drain passing into the cellar would require to be well sealed by a deep trap, and some arrangement would be needed for supplying the latter with water as rapidly as it evaporated.

This arrangement would be a dangerous and unsanitary one unless very unusual care was taken, and it cannot be recommended for general adoption.

Connections with the sewers are made by breaking a hole in the top of the latter and cementing a saddle-piece with a T connection over the hole, so that the house-drainage is discharged into the top of the pipe. Traps in the house-drains are considered objectionable as tending to cause stoppages in the drain while any object that has successfully passed through the house-drain is said never to occasion any difficulty in the sewers.

At Wave Crest, Rockaway, L. I., a four-inch sewer has been laid across a salt marsh for a distance of 2,800 feet. This small pipe is nearly level, the total fall being only three inches, yet during the nine years in which it has been in use no stoppages have occurred and no trouble of any sort has been met with. There are twenty-three houses on this line of pipe, most of which have three water-closets and one or two bath-tubs. A flush-tank at the end of the line of pipe is supplied by means of a wind-mill.

The results of experience with the separate system at New Brighton indicate that the principal difficulties to be met with are those of administration. In small places, where it is difficult to obtain constant inspection by persons thoroughly acquainted with those essentials necessary for the perfect working of the system, trouble may be expected from careless supervision and from bad workmanship in making house connections. Strict ordinances are necessary, and too great care cannot be taken to see that they are thoroughly enforced.

There may be places where good administration could be obtained through companies formed by those of the residents who thoroughly appreciate the sanitary needs of the community. Such companies would provide the people with sewerage in very much the same way that gas and water are now frequently furnished. The financial success of a corporation formed for the purpose of providing a means for sewage disposal would, however, not be as well assured as though its object was to supply wants more generally felt. It is not improbable that public sentiment would be more alive to defects in the administration of a company of private individuals than would be the case if the matter was in the control of the village authorities. In towns and villages where an enlightened public sentiment exists, it would be in the interest of economy to keep the control of the sewage in the hands of the local government, in which case special care should be taken to secure competent inspection and faithful workmanship.

HORACE ANDREWS, JR.

ALBANY, *January* 30, 1885.

SPECIFICATIONS FOR SEWERS IN THE CITY OF SCHENECTADY, N. Y.

1. The sewers shall be constructed of glazed earthenware sewer-pipe of the best quality (except under the Erie canal, where it shall be of iron), which shall be provided with Y branch connections of four inches in diameter on each side opposite every lot in front of which it passes.

2. They shall be located on the lines shown on the plans of the work, and will be staked out by the engineer. This line, whenever practicable, will be on the center line of the street. The committee, however, reserve the right to move the line of sewers to the right or left whenever obstructions are met which render a change of line desirable.

3. The contractor will be required to preserve all stakes and bench marks until permission is given by the engineer to remove them.

Excavations.

4. All excavation shall be by open cut from the surface. No tunneling will be allowed, except written permission be previously obtained from the engineer.

5. Whenever the material is of such a nature as to allow it, the excavation up to the greatest horizontal diameter of the pipe shall be made to conform to the shape of the pipe to be laid in it. Above this line the cut may, in ordinary cases, be carried to the surface at such a slope as the contractor may choose.

6. Should the contractor think it best to keep the sides of the excavation vertical, by bracing or otherwise, it is expressly understood that it shall be done at his own cost.

7. The sides of the excavation, whenever it shall be necessary in the opinion of the engineer, shall be supported by suitable plank and shoring, but no allowance will be made therefor unless the same is left in the trench by written order of the engineer.

8. The excavation, at the bottom, is to be made and shaped as nearly as possible, to fit the lower half of the pipe to be laid, with holes cut at the joints for the sockets to rest in, so that the pipes shall have a uniform bearing on the ground from end to end. The excavation at the joints shall be at least six inches outside of the joints to enable the joints to be perfectly cemented.

9. At the height of half the diameter of the pipe from the bottom, that is, at the height of the greatest diameter of the pipe, all trenches are to be eighteen inches wider than the greatest diameter of the pipe to be laid therein.

10. The trench shall be dug to within six inches of grade by measurement from the witness stakes on the surface. The last six inches shall be taken out after the grade pegs have been set in the bottom of the trench by the engineer.

11. The approximate depth of the cutting will be marked by the engineer on witness stakes before the excavation is begun. Grade pegs will be set by the engineer every twelve and one-half feet on the center line at the bottom of the trench.

12. In no case, without previous written permission from the engineer, shall more than .... feet of trench be opened in advance of the completed sewer.

13. The material excavated shall be laid compactly on the sides of the trench and kept trimmed up so as to be of as little inconvenience as possible to the traveling public and adjoining tenants.

14. The contractor shall not obstruct the gutter of any street, but shall use all proper measures to provide for the free passage of surface water along the gutters.

15. The contractor shall provide for all water-courses and drains interrupted during the progress of the work, and replace them in as good condition as he found them.

16. The contractor shall keep the trenches free from water during the progress of the work, as no pipe will be laid in water in any case whatever.

Protection of Water and Gas-pipe.

17. The contractor shall do whatever may be necessary to keep in position and to protect from injury all water and gas-pipes, lamp posts, service-pipes and all other fixtures which may be met with in carrying on the work.

In case any of the said gas or water-pipes or other fixtures be damaged, they shall be repaired by the parties having control of the same, and the expense of such repairs shall be deducted from the amounts which may become due the contractor.

Protection against Accidents.

18. The contractor shall erect suitable barriers around all excavations to prevent accidents to passengers on the streets, and shall place and maintain during the night sufficient red lights on or near the work.

19. The contractor shall have charge of and be responsible for the entire line of sewers for whose construction he has contracted until their completion and acceptance.

Back Filling.

20. The earth filled around and on top of the pipes shall be free from stone and tamped with the utmost care, so as to obtain the greatest compactness and solidity possible. In filling, the earth shall be kept at the same height on both sides of the pipe. The earth shall be rammed in layers of not more than one foot thick up to the surface of the street, and in no case shall the number of men filling be more than twice the number of men ramming.

21. The trench must in all cases be filled to the proper grade with suitable material, free from stones over four inches in diameter. Should there be a deficiency of proper material for refilling the trench, the contractor will be required to furnish the same at his own cost.

Repaving and Restoring Streets.

22. Where the pavement has been removed, it must be replaced by the contractor and left in as good condition as it was before being removed.

23. All surplus material and rubbish must be removed by the contractor.

24. All work of restoring the surface of the streets shall be done to the satisfaction of the Superintendent of Public Streets.

Protection of Property.

25. The contractor shall, at his own expense, shore up, protect and make good, as may be necessary, all buildings, walls or fences injured or liable to be injured during the progress of the work; and the contractor will be held responsible for all damage which may happen to neighboring property from neglect of this precaution or from any other cause connected with the prosecution of the work.

Pipes — How laid.

26. All pipes over eight inches in diameter shall be laid with a straight-edge, beveled to grade, furnished by the engineer. One end of the straight-edge shall be placed on the nearest grade peg and the other on the flow-line of the pipe to be laid, and the height of the pipe shall be so adjusted that a builder's level placed on the upper edge of the straight-edge shall be perfectly level. The level used for this purpose must be kept in perfect adjustment by the contractor.

All pipes eight inches and less in diameter shall be laid in the following manner: A mason's line shall be tightly stretched parallel to the grade and slightly above the sockets of the pipes. This line will be supported over the center at distances not greater than twenty-five feet apart. The exact grade for each pipe shall be obtained by measuring down from this line.

27. Especial care must be taken to lay the pipe to the exact grade and line.

28. All pipes previous to being lowered into the trench shall be fitted together and matched, so that when jointed in the trench they may form a true and smooth line of pipes.

Joints.

29. A gasket of oakum or other material approved by the engineer shall be pressed into the joint around the entire circumference of the pipe to prevent the entrance of cement to the inside of the pipe. No joint shall be cemented until the gasket of the next joint in advance has been completed.

30. The cement shall be pressed into the space between the socket and spigot so as to entirely fill the space, and the bevel joint at the end of the socket shall be smoothly and evenly made.

Special care must be taken to make perfect joints at the bottom of the pipe.

31. The excavation made for the socket of the pipe shall be filled with sand to support the cement firmly in position. When water accumulates in this excavation it must all be removed with a syringe or sponge before the joint is made.

32. When the joint is completed, great care must be taken not to disturb the pipes.

Cement.

33. The cement for filling the joints shall be pure, fresh-ground Rosendale cement of best quality, with only enough water added to give it the proper consistency, and shall be used as soon as mixed.

Branches, "Ts," etc.

34. The "Y" branches, "Ts," lamp-holes, hand-holes and man-holes shall be placed at points indicated by the engineer. Their location will be indicated by stakes driven at the sides of the trench.

The "Y" branches shall be elevated to correspond to the lateral sewers and house-drains entering them. They shall be closed with an earthenware cap, and the space above the cap shall be filled with sand covered with a thin coating of cement.

Sewers to be kept clean and free from water.

35. All the pipes must be kept thoroughly clean, and no water will be allowed to flow through them in any case whatever, during the construction of the sewers.

36. When the trench is left for the night, or the pipe-laying is stopped by rain storms or any other cause, the ends of the pipes must be closed water tight with a plug and cement or with bricks and cement, as the engineer may direct.

37. When running quicksand or other treacherous ground is encountered, the work shall be carried on day and night should the committee so require.

Artificial foundation.

38. Whenever ordered by the engineer, in writing, the contractor shall excavate to such depth below grade as the engineer may direct, and the excavation shall be brought to grade with such material as shall be ordered by the engineer; the extra work to be paid for upon the estimate of the engineer.

If the contractor excavate below grade without orders, he will be required, at his own expense, to fill the excess of excavation with such material as the engineer may direct.

Concrete formations shall be placed under the flush-tanks and man-holes when so directed by the engineer.

Hand-holes.

39. At intervals of 100 feet a piece of sewer pipe shall be laid having a detachable section on the upper surface so that access may be readily obtained to the interior of the pipe.

Lamp-holes.

40. Lamp-holes shall be constructed by placing a six-inch "T" branch vertically in the sewer and bringing it up to within one foot of the street surface by adding pipes of the same diameter. The top of the lamp-hole shall be protected by a cover as shown in the detail drawings.

Man-holes.

41. The man-holes shall be constructed of hard brick laid in cement mortar. The thickness of the wall shall be eight inches. The form shall be a truncated cone, five feet in diameter at the bottom and two feet at the top. The bottom shall be on a level with the bottom of the sewer-pipe and the top on a level with the street surface. The top shall be covered with a cast iron perforated cover, with dust pan underneath. (See drawings.)

Cement Mortar.

42. The cement mortar for man-holes, lamp-holes and concrete shall be made of best quality of fresh-ground Rosendale cement and clean, sharp sand, in the proportion of one measure of cement to two of sand. The sand and cement shall be thoroughly mixed dry and such quantity of water added so as to form a paste of the proper consistency. All mortar to be fresh for the work in hand. No mortar that has begun to set will be allowed to be used.

Concrete.

43. The concrete used on the work shall be made of stone, broken so as to pass through a two-inch ring, and cement mortar. The stone shall be free from dirt. The cement, sand and stone shall be

mixed in the proportion of one of cement, two of sand and two of stone.

Materials — How furnished.

44. All pipes and other materials shall be furnished by the contractor.

Materials to be inspected by Engineer.

45. No materials of any kind shall be used in the construction of the sewers until they have been examined and approved by the Engineer.

Freezing Weather.

46. No pipes or masonry will be allowed to be laid in freezing weather.

Disorderly or incompetent Workmen.

47. If any person employed by the contractor on the work shall appear to the Engineer to be incompetent or disorderly, he shall, on the requisition of the Engineer, be immediately discharged, and such person shall not be again employed upon the work without the permission of the Engineer.

Length of Sewer.

48. The length of the sewer will be measured on the centre line of the pipe.

Interpretation of Term.

49. Wherever the word "committee" is used in these specifications it shall be held to mean the "Committee on Sewers" of the Common Council of the City of Schenectady, N. Y.

50. Wherever the word "engineer" is used it shall be held to mean the Engineer in charge of the sewers, or his authorized assistant.

51. Wherever the word "contractor" is used it shall be held to mean either any contractor or firm of contractors, or any member of a firm contracting for work herein specified.

52. Bids shall state the price per lineal foot of pipes of each size laid as herein specified, and for the various depths named, which price shall be in full for all labor and materials required for the complete execution of the work; also the price for each man-hole, flush-tank and lamp-hole complete.

53. Payments for the work will be made monthly upon the estimate of the Engineer. Twenty per cent ($\frac{20}{100}$) of the amounts due will be retained as a guarantee against poor workmanship and materials. One-half of this reserve will be paid as soon as the work is completed and accepted and the other half after the expiration of one year after the acceptance of the work.

SCHENECTADY SEWERS.

PROPOSAL FOR FURNISHING MATERIALS AND CONSTRUCTING SEWERS IN THE CITY OF SCHENECTADY, IN ACCORDANCE WITH THE SPECIFICATIONS HEREWITH ANNEXED:

Items.	Prices.
Price per lineal foot for furnishing and laying 18-inch pipe, including Ys, branches, detachable covers and cement joints	
Price per lineal foot for furnishing and laying 15-inch pipe, including Ys, branches, detachable covers and cement joints	
Price per lineal foot for furnishing and laying 12-inch pipe, including Ys, branches, detachable covers and cement joints	
Price per lineal foot for furnishing and laying 10-inch pipe, including Ys, branches, detachable covers and cement joints	
Price per lineal foot for furnishing and laying 8-inch pipe, including Ys, branches, detachable covers and cement joints	
Price per lineal foot for furnishing and laying 6-inch pipe, including Ys, branches, detachable covers and cement joints	
Price per lamp hole, including all materials and labor	
Price yer man-hole, including all materials and labor	
Price per flush-tank, including all materials and labor	
Price per lineal foot for all excavation and back filling under 6 feet	
Price per lineal foot for all excavation and back filling over 6 feet and under 8 feet	

Price per lineal foot for all excavation and back filling over 8 feet and under 10 feet..................................

Price per lineal foot for all excavation and back filling over 10 feet and under 12 feet..................................

Price per lineal foot for all excavation and back filling over 12 feet and under 14 feet..................................

Price per lineal foot for all excavation and back filling over 14 feet and under 16 feet..................................

Price per lineal foot for all excavation and back filling over........ 16 feet and under 18 feet..................................

Price per lineal foot for repaving..............................

The undersigned hereby propose to the City of Schenectady to furnish all the materials and perform all the labor necessary to complete such amount of the above mentioned work as shall be awarded to the undersigned by the said city or the Committee on Sewers of the Common Council of said city, at the prices named in the preceding proposal, and on the acceptance of this proposal do hereby bind to enter into a contract with the said city, at such time and place as shall be required by it, to perform the said work before the day of 188 , for the consideration and at the prices named in the foregoing proposal. Also to furnish such security as may be required for the faithful performance of the work, the payment for materials contracted for, and for the payment of laborers' wages and liens which may arise therefrom.

Dated at Schenectady, N. Y., the day of 1884.

Contractor's signature, [L. S.]

Postoffice address,

BIDS FOR CONSTRUCTING SCHENECTADY SEWERS.

	Price per foot for excavation and back-filling, under 6 feet.	Price for excavation and back-filling, 6 feet and under 8 feet.	Price for excavation and back-filling, over 8 feet and under 10 feet.	Price for excavation and back-filling, over 10 feet and under 12 feet.	Price for excavation and back-filling, over 12 feet and under 14 feet.	Price for excavation and back-filling, over 14 feet and under 16 feet.	Price per lineal foot for furnishing and laying 8-inch pipe.	Price per lineal foot for furnishing and laying 10-inch pipe.	Price per lineal foot for furnishing and laying 12-inch pipe.	Price per lineal foot for furnishing and laying 18-inch pipe.	Price per man-hole, including materials and labors.	Price per flush-tank, including materials and labors.	Price per lamp-hole, including materials and labors.	Price per lineal foot for re-paving.	Total.
	cts.	cts.	cts.				cts.	cts.	cts.					cts.	
Samuel Moak..............	16½	22	90	$ 93	$ 40	$ 45	25	34	41	$ 60	$48	$47	$5 50	08	$37,571 30
Hinds, Moffat & Co	24	46	70	96	1 12	1 82	23	31	38	65	42.02	72.25	8 20	05	40,887 55
J. A. Hallnan..............	27	35	80	1 00	1 50	3 30	22	30	38	82	51	76	10 00	04½	42,658 00
Doyle & Stanton...........	37	43	54	59	72	90	18	27	35	52	38	40	2 25	12	41,096 70
Robert Bryce..............	27	29	34	39	55	95	23½	31½	38	66	54.75	85.50	8 79	05	37,052 60
Spaulding & Lenane... ...	42	47	62	90	1 05	1 20	18	27	33	57	45	55	5 50	12	45,672 50
B. J. Coyle................	37	45	50	56	62	70	33⅛	50	60	1 00	30	45	10 00	07	49,720 67
S. E. Babcock.............	28	33	48	60	70	1 00	25	33	38	75	40	50	1 75	07	39,043 70
Sloan & McIlvain...........	34	41	52	63	74	87	27	34	39	59	25	50	8 00	05	41,895 20
Sherman & McDonald......	25	36	53	95	1 50	2 00	24	31	36	58	45	65	7 50	20	45,404 60
W. E. Dean..............	20	40	60	1 10	1 25	1 50	23	33	47	60	36	50	4 00	10	39,993 80
B. Van Vranken...........	13	20	30	35	40	50	19	26	32	55	30	35	6 00	03½	25,369 10
J. McEncroe...............	22	28	75	85	95	1 10	17	23	27	49	34	40	7 75	08	34,323 20
S. V. Trull................	13	16	18	20	30	38	18	30	39	50	40	30	1 50	01	22,460 10
M. Nolan	11	26¾	42½	55	82¼	98	16¾	24½	30	58¼	37.27	44	5 00	05½	27,179 32

The contract was taken by Mr. Van Vranken, and the sewers are being constructed by him.

REPORT

ON

DIPHTHERIA AT SANDY HILL.

Application having been made to the State Board of Health to investigate the occurrence of diphtheria at Sandy Hill, Dr. Curtis and O. S. Wilson, C. E., were sent to make, respectively, an examination of the medical history of the disease, and of the physical conditions of the place.

Suspicion resting upon the potable water of the village, specimens from twenty wells and springs were taken and their character examined microscopically by Dr. Hailes, who also made a determination of the quantity of chlorine in these waters, as a test of probable sewage contamination.

The reports of Dr. Curtis, Mr. Wilson and Dr. Hailes were then submitted to Dr. Carroll, Secretary of the Board, for careful consideration, and for a report from him thereon.

The special outbreak of diphtheria at a new school-house in Sandy Hill is carefully discussed by Dr. Carroll, together with the general conditions of the village. The committee fully approve and indorse his conclusions and recommendations.

Committee on Drainage, Sewerage and Topography.

JAMES T. GARDINER, *Chariman*,
ERASTUS BROOKS,
GEO. W. COOKE, M. D.,
EDWARD MOORE, M. D., *President*,
ALFRED L. CARROLL, *Secretary*.

The above report was approved by the State Board of Health May 14, 1885.

ALFRED L. CARROLL,
Secretary.

CONCLUSIONS OF DR. ALFRED L. CARROLL,

To the Committee on Drainage, Sewerage and Topography:

Dr. Curtis' report, showing the incidence of diphtheria at Sandy Hill for several successive years, chiefly during the winter months, seems to point to pollution of the ground-atmosphere as a factor in the outbreak at such seasons when the closure of doors and windows diminishes ventilation, and the artificial warmth of house interiors exerts a certain suction upon the fouled air contained in the surrounding soil; and it is probable that this factor, in the present as well as in past years, has borne its part in localizing and intensifying the effects of other insanitary conditions. Indeed, the earlier cases in the vilely arranged tenement described by Mr. Wilson may be reasonably ascribed to domiciliary filth-poisoning.

In the present unsatisfactory state of knowledge concerning the etiology of diphtheria it is impossible to determine accurately the relative influence of personal contagion, transportation by specifically infected articles, or pollution of air or water; but there is sufficient evidence to warrant the opinion that the disease is often, if not commonly, generated *de novo* from the products of putrefaction of organic (usually animal) matter; and that the contamination of either the respired air, or the drinking water, by such products can, under certain as yet undefined conditions, give rise to severe outbreaks. In the instances under consideration the school-house appears to have been a central focus, though, in the absence of positive data respecting the school-attendance and domestic history of the children affected, the character and extent of its agency cannot be precisely estimated; and we are left to the alternative hypotheses that the infection may have been imported from a preexisting source and spread through school intercourse, or that it may have originated in the school, and been carried thence to the surrounding neighborhood. The cessation of the epidemic soon after the closure of the school lends probability to the latter supposition; but the prior existence of the malady, and the lack of connecting links between the cases occurring in adults and infection arising in the school render it probable that some of these examples are due to purely local causes. The appended reports afford indications of widespread contamination of soil and water, favored by the porous nature of the superficial layer, and the impermeability of the subjacent strata. In addition to the soakage from the cemetery, uncemented privy-pits everywhere contribute their foul leachings to the ground-water wherein wells are sunk, and the examinations by Dr. Hailes show that many of these wells are laden with decomposing organic matter. Without entering into the minutiæ of the "germ theory," it may be stated that the multiplication of bacteria implies the existence of decomposing or decomposable organic matter; and that the commonest variety of these microscopic fungi is believed to be the special ferment of putrefaction of albuminoid substances, with the resulting evolution of sceptic poison. The rapidity of the development of colonies of bacteria in a perfectly sterilized gelatin preparation, inoculated with the water under examination, is regarded as indicating approximately the degree of dangerous pollution. In this respect Dr. Hailes shows that nearly all the wells at Sandy Hill are contaminated; but other data in this report render it probable that the contamination proceeds from different agencies. Chlorine, when present in excess of the amount derivable from natural sources, is very commonly significant of pollution by excremental matter; urine containing a large proportion of it. The great quantity of chlorine in some of the wells would warrant a suspicion that in these soakage from adjacent privy-pits is the chief origin of fouling. But in other instances (and notably in the school-house well and its vicinity) it is noticeable that with a much smaller percentage of chlorine, the development of bacterial life is even more rapid, and in such cases the drainage from the cemetery may be the principal factor.

Whatsoever uncertainty may exist as to the immediate causation of the outbreak of diphtheria, there can be no doubt that the insanitary conditions prevailing at Sandy Hill are sufficient to endanger public health, and to intensify epidemic diseases, and that energetic measures should be adopted for their abatement. Under the peculiar geological and topographical circumstances of the village, sewerage is, even more than elsewhere, a sanitary necessity; and, while awaiting the construction of sewers, the use of uncemented privies should be at once abandoned, their contents removed, with free employment of disinfectants, and some dry-method of excrement disposal substituted in their stead. But even if this be done, a long time will be required for the complete oxidation of the organic filth with which the soil is loaded, and the surface-wells will still be subject to contamination. Until a pure and wholesome water supply can be obtained the inhabitants should be cautioned to boil the well-water before drinking it. This precaution should be enforced as regards the school well, if it be necessary to use it at all.

The tenement referred to in Mr. Wilson's report should be condemned as unfit for human habitation, its owner compelled to rectify the glaring defects in construction, and its occupants forced to observe sanitary regulations.

As regards the cemetery, no future interments should be permitted in it, and its surface should be, as far as possible, planted with rapidly growing trees and herbage. A. L. C.

REPORT OF DR. F. C. CURTIS.

To JAMES T. GARDINER, Esq., *Chairman of Committee on Sewerage, Drainage and Topography:*

SIR — Under your direction, and in company with Mr. O. S. Wilson, C. E., I made a visit to Sandy Hill, Washington county, on the 26th January, to make an inquiry into the etiology of an unusual prevalence of diphtheria, which had been reported to the State Board of Health.

Three cases of this disease occurred in July, all of them in one family, two proving fatal. The epidemic proper, however, developed about the middle of December. On the 13th, a child seven years of age was taken. Three days later another child was taken, in another family, at a distance of two blocks. Both of these were fatal cases. On the same day two other cases were reported, one a child, the other an adult. On the 20th, four new cases developed, three of them being members of one family, and all under eight years of age. Five fresh cases arose on the 22d; two were children nine and ten years old, one an adult, and the other two a mother and child.

These were the last cases to occur at this time. A month later, during the latter part of January, three cases developed, two adults and a girl of twelve. No new cases have since been reported. In all, nineteen cases have occurred, of which thirteen broke out during one week in December. There were in all four deaths.

The history of Sandy Hill shows that cases of diphtheria have been of yearly occurrence. The health officer, Dr. C. L. Infield, and his predecessor, Dr. Wilson, informed me that there are few years in recent time in which a few cases have failed to be developed as the cold months came on. Four years ago they were especially numerous, three of them then terminating fatally. This outbreak especially affected the central part of the village.

Sandy Hill consists for the most part of two main streets, parallel, in a northerly and southerly direction, with a number of cross-streets between them. It chiefly lies along the margin of an abrupt elevation or plateau, a little distance back from the Hudson river, which is here a rapid stream without overflowed banks. It is in an extensive rolling plain surrounded by low hills some miles distant. The village, of nearly 3,000 population, has wide, cleanly streets, with houses generally well built in neat and roomy yards, very few being of a poor class, and the place has a remarkably clean and attractive appearance. It seems to have every facility for perfect ground drainage, but of this Mr. Wilson will report more accurately. It has no public water-supply, yard-wells being altogether used. Nor is there any attempt at drainage. Few houses are said to be supplied with excavated cess-pools, house-slops being thrown upon the surface. The ordinary hidden pit is the universal resource.

Of the three cases of diphtheria which occurred in July, and separated by several months from the present epidemic, it need only be said that, occurring in one family, in a tenement occupied by five families, all of them separate in every respect, however, and with the premises not kept in a sanitary condition, they arose from local causes entirely. Mr. Wilson examined these premises, and I refer you to his report.

Of the present outbreak, you will observe that thirteen of the sixteen cases made their appearance from December 13th to 22d. Practically these cases may be said to be simultaneous.

Another point of interest in the study of these thirteen cases is that all but three of them were under ten years of age.

A third feature is that, occurring thus suddenly, the cases appeared in no one locality, but remote from each other. They were for the most part found in the southerly portion of the village, but not in a circumscribed point, nor did those nearest to each other occur in chronological order.

These prominent characteristics, (*a*) sudden outbreak and cessation, (*b*) age of the subjects, (*c*) extended distribution, indicate its dissemination from a common center, as a school, or its general and simultaneous distribution in milk or other article of food. The former, to which attention had been directed before our visit, satisfies the conditions, and was the undoubted cause of a large part of the cases.

This school building was erected last summer, and finished for occupancy in September. It is a neat wood structure, one story high, on hewn stone foundation, without cellar or basement, and abundantly capacious. It is a primary school, the main school being some distance away. It is in the southern limits of the village, on a site never before occupied, with few buildings adjacent, and with capacious premises. An old cemetery stands on higher ground not far distant. The school seems, in fact, to be built in a depression of the plateau, and below the general surface. Dwellings surround part of the large block in which this burial ground is located. Near the school is a recently dug well. Its water has been found to show evidence of decomposing organic matter in abundance, and I have no hesitation in saying that it was the cause of diphtheria in the cases of nine school children who made use of it. Just this cause has been found in other outbreaks of diphtheria, which I need not cite to you. The school was opened in September and closed on the 18th of December for vacation. It has been advised that further use of this well be discontinued.

There remain several cases which are not to be accounted for in this way. Some of these localities, six in all, I found time to visit. They were all adults, except one, the child of a mother who was herself affected. My belief is that all of these will be found traceable to polluted drinking water. They were in the families of persons of comfortable surroundings, and under general cleanly conditions. In one I found the well, the water of which was declared to be excellent, not fifteen feet from a deep privy vault; here the mother was seriously ill with diphtheria, three small children with others of the family escaping.*

In another case, two members of the family being affected, the well ten feet deep, is close to a stable, and its water at times is said to have an offensive taste. Being now frozen a sample from it could not be procured.

In a family living quite near the school another case was found, and the water of their well will doubtless be found identical with that of the school.

It is well known that polluted water is often used with impunity for a long time and then suddenly becomes operative in producing diphtheria. The causes for this are not altogether clear, but they probably lie in the direction of the persons becoming accustomed to it, and resisting its effects by usage; in the season of the year, since diphtheria flourishes but in the cold months; and in changes in the depth of water in the well, and the concentration of the pollution of the water. It is not now for the first time that this disease has developed in this locality, and it is now more prevalent, chiefly because of the school well affecting so many.

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* See No. 6 of Dr. Hailes' report.

It appears a matter of so much interest to the inhabitants of this village, that a considerable number of samples of water, not only from wells of those affected, but from various parts of the village, were procured, and will be analyzed and reported on to you by Dr. Hailes. Some of these are affected by the cemetery possibly, which is so situated as to favor drainage into them. But in a large village without sewerage and with yard wells, it is not necessary to look for local causes of contamination of wells. The remedy, if found to be needed, you can suggest much better than I am able to do.

Very respectfully,

F. C. CURTIS.

MR. WILSON'S REPORT.

James T. Gardiner, Esq., *Chairman of the Committee on Drainage, Sewerage and Topography of the New York State Board of Health.*

Sir — On the 26th inst. I visited Sandy Hill, and investigated the surroundings of the school-house on John street, and herewith submit the following

REPORT.

Sandy Hill has a population of about 2,800. It is situated on the east bank of the Hudson river, which at this place has considerable fall, and is used as power for manufacturing. The larger portion of the village is situated on a sandy ridge or plateau, a few hundred feet back from the river, which rises abruptly about fifty feet and, about one-half mile back from the river, slopes off gradually to the east. This ridge, which has quite a slope to the south from near the center of the village, runs about parallel with the river. The low land along the river is being built upon for residences, paper-mills, etc. (See appended sketch.)

Underlying Strata.

The ridge in the southern part of the village, in which the school-house complained of is situated, is comparatively flat on top for a width of about one thousand feet, and is composed of sand to a depth of about eight feet; underlying this is a stratum of hard-pan or cement varying in thickness, but generally about two feet in depth. Below this is a stratum of quicksand from a few inches to four feet in thickness. This is a water-bearing stratum. Below is a bed of tenacious blue clay, about twenty feet thick, below which a water-bearing stratum of gravel is sometimes found, from a few inches to three feet in thickness. Beneath all the above strata is a bed of slate rock, about the thickness of which I could obtain no information. The above data were obtained by inquiry of citizens and well diggers.

DRINKING WATER.

In the northern part of the village two wells have been bored into the rock to a depth of seventy to ninety feet. One well in the southern end of the village was dug through the clay and no gravel being found was excavated eight feet into the rock, making the well forty-two feet deep.

The general method of procuring water is by digging through the sand and hard-pan into the quicksand, when the water rises from two to six feet in the well. Nearly every house has a well of this kind.

MANNER OF DISPOSING OF SEWAGE.

Most of the houses have privies with vaults excavated to, or nearly to, the hard-pan. The slops from the kitchen, etc., are either thrown upon the ground or led away a short distance to a cess-pool, while no provision is made for soakage about stables and manure piles.

GENERAL SANITARY CONDITION.

From the preceding description of the formation it will be readily seen that while on the surface a semblance of cleanliness and healthful surroundings might be maintained, the ground-water and air could be, and doubtless is, in a very unhealthy condition. Owing to the porous character of the soil the liquid and finer portion of the solids soak into the soil and are carried on by the rain and storm-water down to the hard-pan; thence along this impervious stratum, following its inclination until some opening — a well, for example — is reached, when it finds its way into the ground-water, thus polluting not only the well it first enters, but in general the whole underlying ground-water as it moves southerly or toward the river.

Not only are all the residences, with their out-buildings, stables, etc., aiding in polluting the ground-water and air, but an old cemetery — now seldom used — is also a prolific source of pollution in its immediate vicinity and below.

JOHN STREET SCHOOL-HOUSE.

This building — shown on the sketch — is about twenty-two feet by forty-five feet, one-story, built the past season, and designed as a ward or primary school for the accommodation of the younger children living in this portion of the village. Drinking water is obtained from a new well dug through eight feet of sand and two feet of hard-pan, situated about fifteen feet from the building, on the east side. There are two privies, without vaults, back of the school-house, and fifty feet or more from the well. The site for this school-house could hardly have been chosen in a more unsuitable location from a sanitary standpoint. It is in a slight depression, bounded by slight elevations of three to ten feet, except toward the south. The limits of this depression are shown approximately in the sketch. The surface of this basin is poor, sandy soil, growing weeds, white birches and other low brush. The slope of the surface toward the south is slight, consequently snow and rainwater runs off slowly and readily soaks into the soil when not frozen. Without a careful investigation by borings and accurate levels it is impossible to give the slope and limits of this basin on the surface of the hard-pan, but from surface indications I have endeavored to show, by cross-shading, the houses that tend to pollute the ground-water at the school-house, in addition to that undoubtedly received from the cemetery, and would attribute said pollution to the following sources: THE CEMETERY; ABOUT FORTY DWELLINGS, WITH OUT-HOUSES AND THE DECAYING VEGETATION WITHIN THE BASIN.

The cemetery is on the highest land in its immediate vicinity, although only about five feet above the depression, above referred to, and has a gentle slope toward the east.

In my judgment it is only a matter of time, assuming a normal growth of the village, when the whole soil will be so polluted as to render all shallow wells dangerous as a supply for drinking water. They are now unsafe, and should be analyzed at once and at least once a year afterward, if it is really necessary to rely on them as long as they can be used. The ground air will also become poisoned and prove deleterious to health, although its effect may, perhaps, be less than that of the water.

PROPOSED REMEDY.

I recommend a water supply, to be brought in from outside. That most readily available is the Hudson river. The Holly system, properly put in, would give satisfactory results. I also recommend a system of sewers, for sewage only, known as the "separate system."

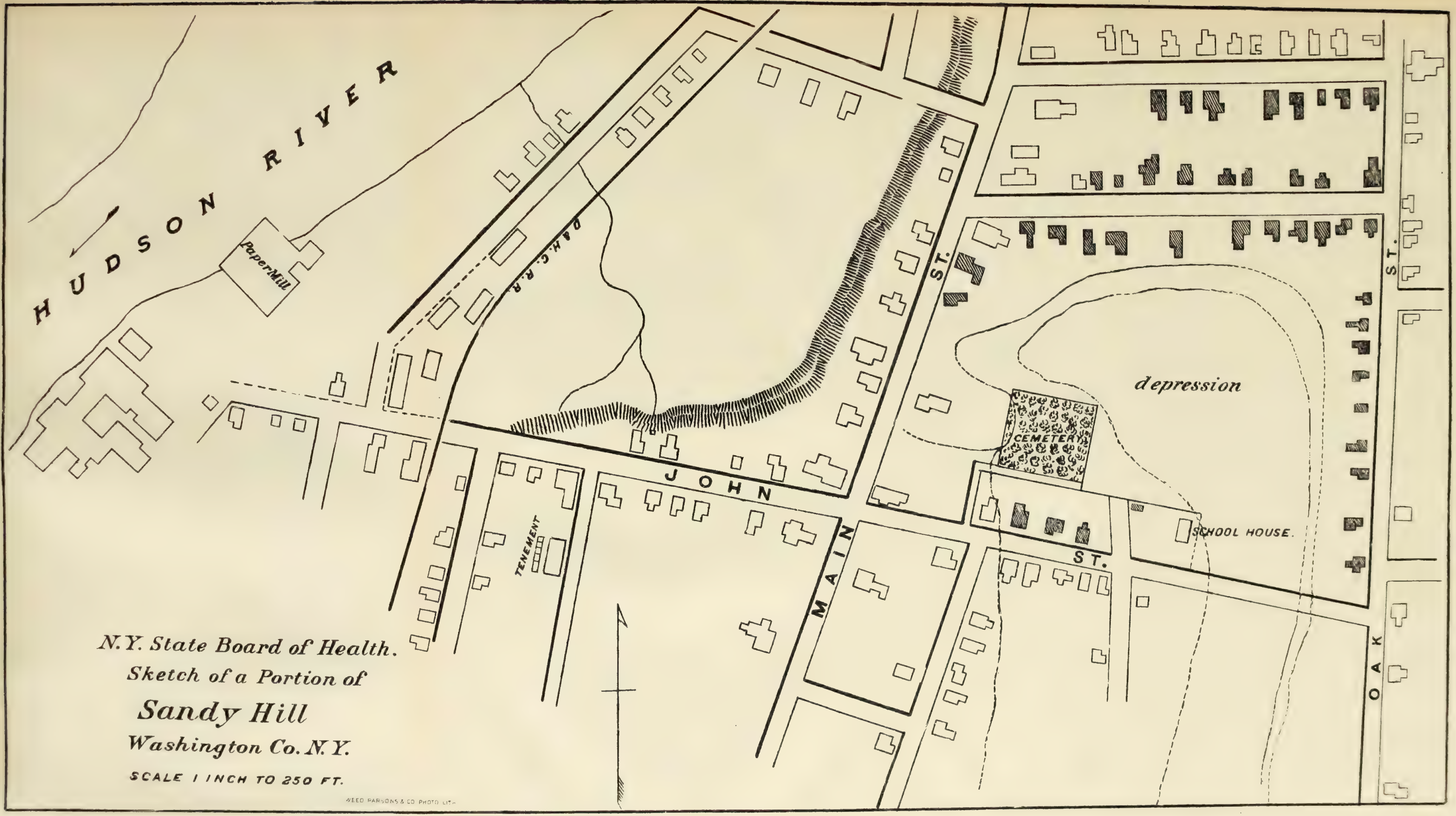
These works would involve a considerable outlay of money, but would be a profitable sanitary investment, as well as a great convenience to all residents of the village.

If any plan for furnishing the village with a water supply seems impracticable, individual citizens could try and improve their drinking water by boring, or driving wells, through the clay to the rock below, but in such wells the surface-water should be cased out. A village ordinance should be passed, and enforced, requiring a proper inspection of such wells, when put in, to see that this casing-out of surface-water is thorough, or the lower ground-water will become polluted. Whether such a supply of water will be feasible, or, if found, unwholesome, can only be ascertained by experiment.

Unless a system of sewers is put in, a change should be made as to the disposal of sewage. The privy vaults should be cleaned and filled with earth, and some of the various methods in vogue adopted for getting the sewage away from the village.

From the casual observation I was able to make, I would suggest that a more thorough inspection of the surroundings of all residences be made. The unusual death-rate in a tenement-house owned by Mr. Howland led me to suspect local causes of water pollution. It is a long two-story house, divided to accommodate five families. (Its location is shown on sketch, just west of the arrow-head.) The privies are in sheds back of the house and about twenty feet from the wells, of which there are four, situated in the cellar bottoms. These cellars are excavated in the sand; the bottoms are wet, and only about eighteen inches above the water surface in the wells, while the soakage from decaying vegetables, meat barrels, etc., pollutes the ground-water so near by. I predict that the test to be made of water from these wells will show them to be highly injurious for drinking and culinary purposes. How many similar cases there may be in the village only a thorough inspection will show.

ST.



N.Y. State Board of Health.
Sketch of a Portion of
Sandy Hill
Washington Co. N.Y.
SCALE 1 INCH TO 250 FT.

WEED PARSONS & CO. PHOTO. LITH.

I believe a system of water supply and sewers the only safe remedy for the evils with which this pleasant village is so constantly threatened.

Respectfully submitted,
O. S. WILSON,
Civil Engineer.

ALBANY, *January* 31, 1885.

DR. HAILES' REPORT.

PATHOLOGICAL LABORATORY, ALBANY MEDICAL COLLEGE,
ALBANY, *February* 9, 1885.

ALFRED L. CARROLL, *Secretary of the State Board of Health:*

DEAR SIR — I have received and examined twenty specimens of water from Sandy Hill, N. Y. Below are the results of a biological analysis.

No attempt has been made to determine the number, nature or species of the micro-organisms, the desire being simply to ascertain approximately the degree of pollution of the various samples of water.

They all show a marked contamination either from surface or soil soakage, and the specimens show, pretty generally, a very large admixture of micro-organisms. Any water open to such sources of contamination is unsafe for drinking purposes, on account of the close relation existing between putrefaction and disease.

WM. HAILES, M. D.,
Albany, N. Y.

TABLE.

No.	NAME AND LOCALITY.	Date of culture.	Time of first appearance of micro-organisms.	Time of liquefaction of surface of gelatine.	Depth of liquefaction on 9th day.	Description of micro-organisms.	No. of colonies in 1 cu. c.	Observations, etc., upon the number, size and microscopic appearances of the colonies of micro-organisms.	Chlorine in parts of 100,000.
			days	days	inches				
1	Well of Howland tenement-house (north end), No. 1..	Jan. 31, '85. 5:15 P. M.	2¾	2½	½	....	...	Numerous large and small colonies, pigmented gas............	1.2
2	Well of Howland tenement-house (north end), No. 3..	"	1¾	3	½	....	...	Numerous medium and small-sized colonies, gas	5.55
3	Well of Howland tenement-house (north end), No. 4..	"	2	3½	½	....	..	Numerous large and a moderate number of medium-sized colonies, pigmented......	1.25
4	Well of Howland tenement-house (south end), No. 5..	"	1¾	3	½	....	.....	Very numerous small and moderate number of medium-sized nebulous colonies, gas in abundance	2.4
5	Well of Wm. Thomas, Main street (deep well)	"	1½	3	¼	....	....	One very large colony with gas, and very numerous colonies of micro-organisms, very minute..	3
6	Well of Patrick Cox, Main street west of Cemetery...	"	1¾	3	¼		...	Two large nebulous colonies and numerous medium-sized colonies	1.95
7	Well of Mrs. Sweet, Main street opposite P. Cox's ...	"	2¾	8	upon surface	..	. .	One large colony and a small number of small colonies	10.6
8	Well of Monty Gibson, first house west of school (12 ft. deep, not below hard-pan).......................	"	3	5	⅝	...	....	Four large and a few small colonies, light brown pigment......	4
9	Well of N. E. Packer, second house west of school (well 20 ft. deep).............	"	1¾	3¾	½	....	....	A moderate number of small and medium-sized colonies..........	1
10	Well of Loran Allen, corner Main and John streets...	"	2⅔	3	entirely	....	...	Exceedingly large colonies, gelatine all broken down	1.8
11	Well of Thomas Glenn, Oak street, east of school .. .	"	2⅔	3	1	....	....	A few large pigmented colonies and a few small ones	7.5
12	Well of Harper Rogers, Elm street	"	1⅔	3	½	....	....	Several large and many small nebulous colonies	3

13	Well of Hiram Allen, corner John st. and Howland's lane	"	1⅔	3	¾	. .	...	A few large and a few small colonies	2.6
14	Well of Thomas Norton, Sumpter street	"	1⅔	3½	entirely	...	..	A few exceedingly large colonies, gelatine all broken down	2
15	Well of Mose Le Point, Sumpter street	"	1½	4	1½	...	....	Three very large colonies and a moderate quantity of medium-sized colonies	3
16	Spring of Thomas Norton, Sumpter street	"	2¾	3	2	....	...	Four very large colonies, ½ inch in diameter	2.65
17	Spring of J. F. Mosher, in rear of house	"	1⅔	3½	¾	...	...	A few large and many medium and very small-sized colonies, lightly pigmented	2.5
18	Well of A. Kingsley, 22 ft. deep, privy 50 ft. distant	Jan. 6, 1885 11 P. M.	2½	3	⅛ on 3d day	.	....	Very numerous medium-sized colonies, nebulous slightly pigmented gas	s 2.4
19	Well of Middleworth house, privy 50 ft. distant	....	2½	3	⅛	...	....	Fifteen distinct large colonies, also a few small ones	s10.8
20	Water from school-house	....	1¼	2	1½	....	....	Exceedingly numerous nebulous colonies; bacterium termo and very numerous short rod bacilli.	-

SANITARY CONDITION OF CANAJOHARIE, N. Y.

STATE BOARD OF HEALTH OF NEW YORK,
ALBANY, *June* 25, 1885.

To the Board of Health of Canajoharie, N. Y.:

GENTLEMEN — In response to the complaint made to this Board of a nuisance existing in your village which ought to have been abated by the local authorities, a sanitary inspection of Canajoharie was ordered and Mr. O. S. Wilson was sent to make the inspection. His report on the sanitary condition of the village is herewith transmitted for your information with the hope that you will use every effort to remedy the evils which are pointed out.

On behalf of the Board,
ERASTUS BROOKS,
Committee on Drainage, Sewerage and Topography.

INSPECTOR'S REPORT.

To the Chairman of the Committee on Drainage, Sewerage and Topography of the New York State Board of Health:

SIR — In accordance with your instructions I visited Canajoharie April 30th to investigate a complaint made against a privy in that village. As it is only one of the many nuisances existing there, I submit the following report on the

SANITARY CONDITION OF THE VILLAGE.

It is an old settlement situated at the foot of and upon the bluff on the south side of the Mohawk river at the mouth of Canajoharie creek. The population is about 2,000.

There are two private water companies which supply water to a small portion of the inhabitants. The main dependence is upon ordinary wells, especially in the lower portion of the village where the land is nearly level and saturated with sewage from cess-pools and privy vaults. There is a pipe sewer from the foot of the bluff along street, emptying into a covered State ditch on the south side of the canal. This sewer was put in for storm water, but takes sewage from several places. It became offensive, but is now flushed occasionally during warm weather with a hose from a fire hydrant turned into the upper end. This sewer should be continued to the river and would then answer for the main outlet sewer for the village, which needs a system of sewers very badly. There are few private sewers emptying into the creek.

NUISANCES ON STATE LAND.

In the early days of the canal Canajoharie creek, in the village, was used as a place for loading and building boats, but was abandoned forty years ago. During the warm summer months the water is very low in the creek with little or no surface current. Along this creek, especially on the west side between Little Mohawk and

Mill streets, the people living along the bank and a few others throw ashes and garbage into the canal bed. High water carries some of this down stream, but at present there are about one hundred wagon-loads of material, mostly ashes with several loads of manure from a stable and all sorts of garbage and filth deposited along the creek above the water surface, creating a stench and a nuisance. I would suggest that your honorable Board order the local board of health to have this material cleaned out at once. The people living on the bank should bear the expense.

Along the berme bank of the canal in the west end of the village there are a number of pig-stys that are a nuisance. I would suggest that the Superintendent of Public Works be requested to order them taken off at the owners' expense.

OTHER NUISANCES.

There are at least fifty places in the corporation where swine are kept, some of which have been complained of. They should all be removed from the village. An ordinance should be passed and enforced forbidding swine to be kept within, or within a certain distance of, the corporation, as it is practically impossible to keep swine in a village without causing a nuisance.

Little attention seems to be paid to the ordinance requiring all privy vaults to be cleaned every spring. The local health officer recently appointed seems to see the necessity of improving the sanitary condition of the village. The local board of health should be more active. If the above statements do not prove this, I will add that there are several houses in the west end of the village without privies or cess-pools, where slops and garbage are thrown into the streets and upon the land of the West Shore railroad opposite. I take pleasure in stating that the privy complained of has been cleaned within a week under orders from the local health officer. There are about three hundred more that need attention.

Respectfully submitted,

May 8, 1885. O. S. WILSON, *C. E.*

SLAUGHTER-HOUSE NUISANCE AT JORDAN.

STATE BOARD OF HEALTH OF NEW YORK,
ALBANY, *June* 25, 1885.

To the Board of Health of Jordan, N. Y.:

GENTLEMEN — In response to the complaint concerning a slaughter-house in the village of Jordan, inspection was ordered by this Board. The report of Mr. O. S. Wilson is herewith transmitted for your information with the recommendation that the local board of health take the necessary means to abate the nuisance substantially as pointed out in the report of the inspector.

On behalf of the State Board of Health,
ERASTUS BROOKS,
Committee on Drainage, Sewerage and Topography.

INSPECTOR'S REPORT.

To the Chairman of the Committee on Drainage, Sewerage and Topography of the New York State Board of Health:

SIR — In accordance with your instructions, I inspected the slaughter-house of Crofut Brothers, at Jordan, May 7th, and report as follows:

It is an old structure within the corporation, and has been used more or less constantly for slaughtering animals for many years. About 800 to 1,000 cattle, 1,000 hogs, besides sheep, veal, etc., are slaughtered here annually, at least eighty per cent of which is sold and used in Auburn. The building with the accompanying pig-pens are situated close to the edge of Skaneateles creek on low land, and can hardly be arranged to prevent it being a nuisance. Part of the winter accumulation of refuse, including ten ton of bones, has been recently removed. It is still far from being in good sanitary condition. While a slaughter-house may be a necessary adjunct to a village, it seems wrong that so many animals should be slaughtered in the corporation of Jordan for the Auburn market. There is another firm selling meat in Jordan, having a slaughter-house within the corporation but below the main portion of the village. I heard no complaint against that, however. When the Messrs. Crofut opened a market in the village recently it had the effect of reducing the price of meat to the consumers about twenty-five per cent, so while many desire to have the slaughter-house removed or put in better sanitary condition, there is no desire to drive their market from the village.

It is, in my judgment, impracticable to render the present building and site unobjectionable for slaughtering purposes, and it should be removed if the village authorities really desire to have good sanitary surroundings.

It would be unjust after making the statement above not to call attention to the unsanitary condition of the rest of the village. Nearly every place shows the need of better sanitary inspection and the enforcement of well-recognized sanitary ordinances. A drain in the main business portion of the village, laid to carry off storm water and emptying into the canal feeder, is polluted by the slops from the hotel owned by the president of the board of trustees, and is a nuisance, in violation of State and village laws. Several privies empty into the canal contrary to said laws.

The local board of health seems careless and unwilling to do its duty lest it meets with opposition and trouble as well as loss to its private interests.

Respectfully submitted,
O. S. WILSON, *C. E.*

May 9, 1885.

POLLUTION OF L'HOMMEDIEU CREEK.

Complaint.

HON. EDWARD M. MOORE, *President Health Commissioners, Albany, N. Y.:*

DEAR SIR — On the 23d day of August, 1884, there was presented to the board of health of the town of Montour, in Schuyler county, New York (village of Havana), a notice, a copy of which is hereto annexed and marked Exhibit "A."

Thereafter the board of health of the said town took action and declared the offense complained of a *nuisance*, but the same was not, nor has it since been, abated. The local board's action is set forth in a letter from the town clerk of the town of Montour, who is its secretary, a copy of which is hereto annexed and marked Exhibit "B."

The situation and location of the *nuisance* is shown in the annexed Exhibit "C," which also shows the distance of several residences of those who made the complaint as well as the other dwellings contiguous.

The residences designated have been occupied for years, and all are surrounded by improvements, some of them of an elaborate and expensive character.

Attention is called to the affidavit of Jerome C. Dutcher, hereto annexed and marked exhibit "D," showing the offensiveness of the *nuisance* and the pollution by it of the waters of L'Hommedieu creek.

The parties maintaining and operating this *nuisance* do not live on the same premises. It was moved and placed thereon by them during the last season. The local board, after coming to the same conclusion reached by your petitioners, seem paralyzed in action, and we call the attention of the State Board to the fact, and respectfully ask its intervention.

Dated HAVANA, N. Y., *February* 5, 1885.

HULL FANTON,
A. O. WHITTEMORE,
A. G. BALL,
F. P. BUTTS,
J. C. DUTCHER.

EXHIBIT "A."

To the Board of Health of the town of Montour, State of New York:

GENTLEMEN — A slaughter-house is maintained by the Messrs. Dibbles in the vicinity of the residences of the undersigned. It is offensive and we believe a cause of danger and an injury to the public health.

Dated *August* 22, 1884.

(Signed)

HULL FANTON,
A. O. WHITTEMORE,
J. C. DUTCHER,
F. P. BUTTS,
A. G. BALL.

EXHIBIT "B."

HAVANA, *February* 4, 1885.

HULL FANTON:

DEAR SIR — I will give you the report of the committee of the whole, given at a board meeting, held September 5, 1884, in regard to the slaughter-house of Dibble Brothers.

The committee of the whole reported that after examining the aforesaid premises, and conferring with the Dibble Brothers, they agreed to remove the said nuisance, and clean the premises, according to the suggestions of the health officer of said board.

Moved, The adoption of the committee's report, and that the health officer see that the suggestions are carried out. Carried.

Adjourned to meet September 13, 1884.

There was no further action taken in the matter by the board.

C. M. MARSH,
Secretary.

EXHIBIT "D."

STATE OF NEW YORK, }
County of Schuyler, } *ss.:*

Jerome C. Dutcher, of the village of Havana, in the town of Montour, in said county, being duly sworn, deposes and says that he has been a resident of said village for nineteen years last past; that during the three years last past he has resided in the east part of the village of Havana, on the street known as Broadway, and between said street and the creek known as L'Hommedieu creek; on the map, that has been exhibited to deponent in connection with the "Dibble Brothers' slaughter-house," his place of residence is correctly indicated, at the corner of Broadway and L'Hommedieu streets, and is marked No. 3; deponent is the owner of the vacant land to the south and west of said indicated lot, and is also the owner of the second and third village lots (shown on the map) west of L'Hommedieu street, and on the north side of Main street; on one of these lots he is now engaged in building a dwelling, the foundation of which is now up.

This deponent further says, that previous to the establishment of the slaughter-house mentioned, the water of L'Hommedieu creek was usually clean and wholesome, and his horse and stock drank of it; that after the slaughter-house was fairly under way the water of the creek became so polluted and bad that the horse would not drink of the water at all, and the stock only when compelled by great thirst; that he has tested other horses by having them taken to the creek, and they likewise refused to drink, the same as his own horse; the polluted water, so far as this deponent can discover, has no perceptible bad odor; almost daily, when passing in the vicinity of the slaughter-house named, particularly during the warm season or when a little moist, the offensive odors emanating, as this deponent verily

EXHIBIT "C".

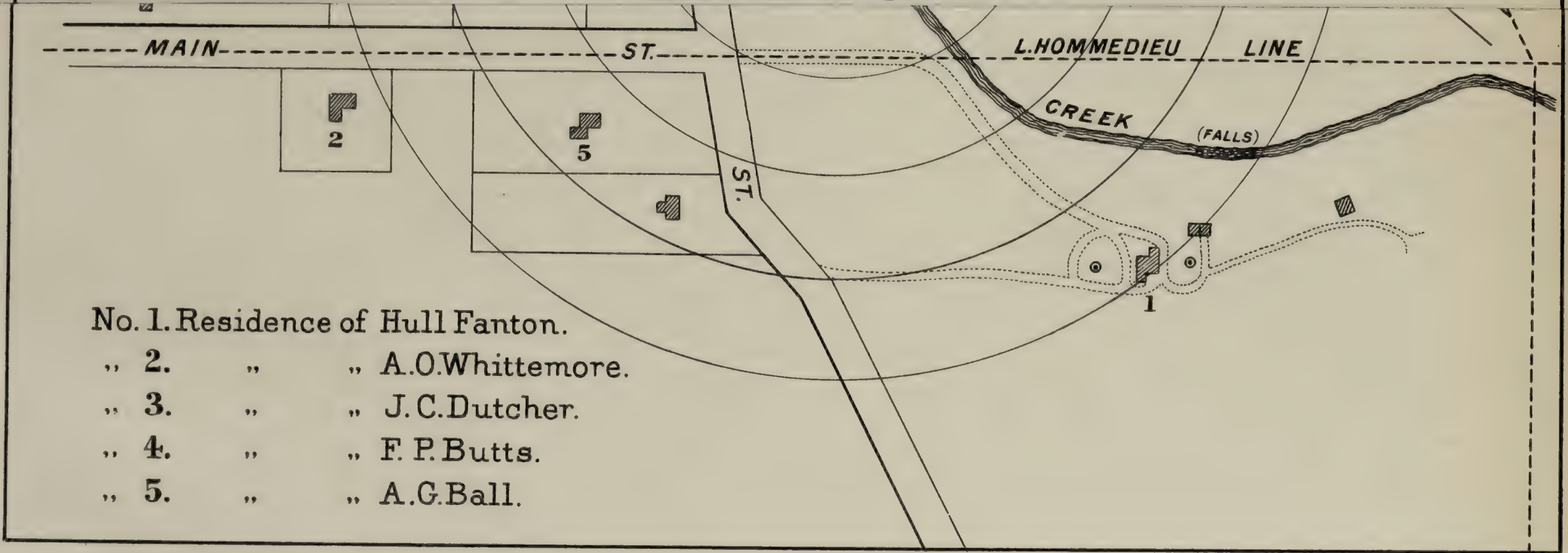
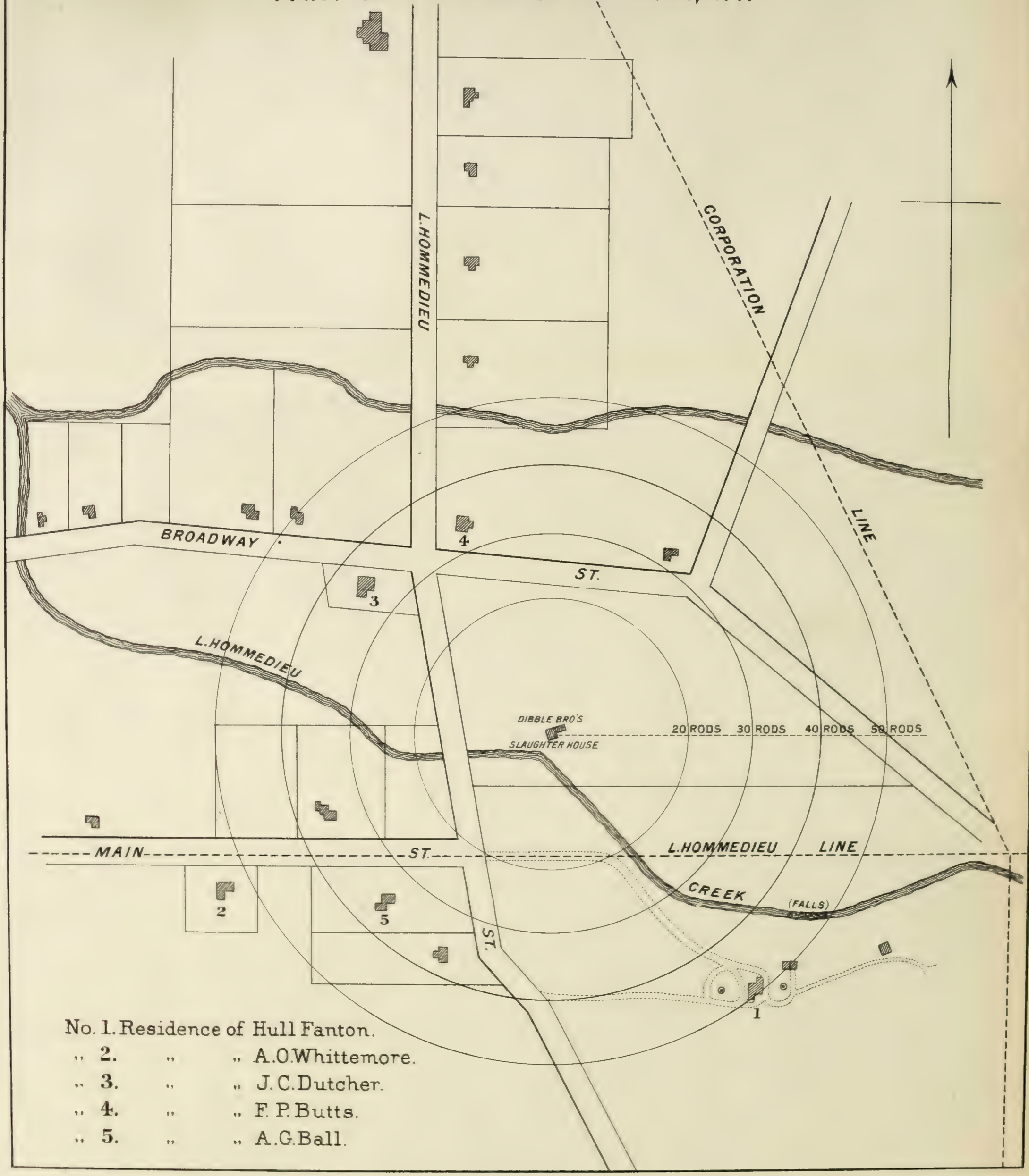

MAIN ST.
L. HOMMEDIEU LINE
CREEK
(FALLS)
ST.
1
2
5
No. 1. Residence of Hull Fanton.
" 2. " " A. O. Whittemore.
" 3. " " J. C. Dutcher.
" 4. " " F. P. Butts.
" 5. " " A. G. Ball.

EXHIBIT "C".

PART OF VILLAGE OF HAVANA, N.Y.



No. 1. Residence of Hull Fanton.
,, 2. ,, ,, A.O.Whittemore.
,, 3. ,, ,, J.C.Dutcher.
,, 4. ,, ,, F.P.Butts.
,, 5. ,, ,, A.G.Ball.

believes, from the said slaughter-house are bad and offensive in the extreme.

JEROME C. DUTCHER.

Sworn before me, this 5th day of February, 1885.
A. G. BALL, *Notary Public.*

REPORT OF STATE BOARD.

STATE BOARD OF HEALTH OF NEW YORK,
ALBANY, *June* 25, 1885.

To the Board of Health of Havana, N. Y.:

GENTLEMEN — In response to the complaint by prominent citizens within the village limits and in the immediate neighborhood of the residence, the State Board of Health sent an inspector, Mr. O. S. Wilson, to examine the locality.

Mr. Wilson reports that the slaughter-house is a nuisance to the neighborhood, and that it should be abated. We, therefore, transmit to you the report of Inspector Wilson with the request that the nuisance be abated at an early day.

On behalf of the Board,

ERASTUS BROOKS,
Chairman of Committee on Drainage, Sewerage and Topography.

To the Chairman of the Committee on Drainage, Sewerage and Topography of the New York State Board of Health:

SIR — Acting under instructions from you, I visited Havana May 1st and inspected the slaughter-house owned and operated by the Dibble Brothers, against which complaint was made, and submit the following report:

Said slaughter-house formerly stood about half a mile further north, near the marsh. It was complained of and removed to its present site.

It is situated on low ground and, at present, is not attractive in appearance and is, no doubt, objectionable to people living in the vicinity.

It has not been kept as clean as it should have been, but the owner promises to keep it in better condition if allowed to remain, and claims no objection was made at the time it was moved there.

About three head of cattle and twice as many sheep and swine are slaughtered weekly for the local market. It is within the corporation, contrary to a village ordinance. It is, in my judgment, a matter with which the village authorities are able to deal, and I would respectfully suggest that your honorable Board instruct the local board to see that this, as well as the numerous other nuisances within the corporation referred to in my report of January last and toward remedying which nothing has yet been done, are abated. It would, perhaps, be unfair to single this out for action when so many nuisances abound, some of the complainants themselves maintaining nuisances. There is no immediate danger to be feared from this nuisance, but it should be carefully watched by the local health officer, when one is appointed, to see that it is kept in as good sanitary condition as possible.

When the village authorities awake to the necessity of a thorough sanitary inspection and improvement of the village, the ordinance respecting slaughter-houses should also be enforced.

Respectfully submitted,

O. S. WILSON, *C. E.*

May 9, 1885.

REPORT CONCERNING COMPLAINT FROM THE BOARD OF HEALTH OF WELLSBURG, CHEMUNG COUNTY.

To the State Board of Health:

GENTLEMEN — As directed by you and in response to a request from the local board of health of Wellsburg, I have made a personal examination of the house that is the subject of their communication to you, and herewith submit my report as to the conditions discovered by me.

I find the report of the health officer, as to the squalid and filthy condition of the log-house complained of, to be substantiated in every particular, excepting that I could not find any evidence of the accumulation of excremental matter within the house.

Accompanied by the constable, I was admitted to the house by Mrs. Burk, after a little delay, and at once found that the lantern which we had procured was an essential aid to the examination. The interior of the house is divided by rough board partitions into several compartments, the largest of which receives a little light through the grimy panes of a small window and through the crevices between the logs. Heaps of dirt, apparently the accumulations of years, were gathered up in places and entirely prevented us from opening the little-used front door.

An open well, just within the back door, was evidently in constant use, though it cannot fail to receive a certain amount of the filthy washings from the floor, which is very uneven and apparently is formed of boards laid directly upon the earth.

A rough board ceiling, placed over the living rooms of the cabin, is perhaps the most effective roof, as the shingles are off from the roof above in many places, and the whole roof appears about to fall.

An inner room, which serves as kitchen and bed-room, and is perhaps eight by ten feet in size, was in nearly total darkness.

The bedding and all else in this room was in an indescribably filthy condition. The cooking-stove placed close to the bed probably prevents the occupants from suffering with cold in severe weather.

Mrs. Burk seemed incapable or reluctant to make intelligible answers to questions put to her; her singular life of absolute seclusion from light and fresh air and all converse with the inhabitants of the village will perhaps account for her reticence, though such a life might well be sufficient to unsettle her mind.

The near neighbors of Mrs. Burk testify that they have not seen her for years, the constable with me had never seen her before, and her appearance and peculiar complexion indicated a life of imprisonment in darkness and filth. Whether Mrs. Burk's seclusion is voluntary or not cannot be ascertained from her, but the fact is testified to by her neighbors that she has not been seen out of her home for ten years.

The house was pervaded with a close and sickening smell arising from the filthy floor, the bedding and clothes long unwashed, from various accumulations of rotting vegetables in barrels and the decaying woodwork of the cabin. As far as I was able to understand Mrs. Burk's nearly unintelligible words, she was feeling ill and rheumatic, and would be willing to have her condition improved.

There is no privy attached to the house, and excremental matter is probably thrown out into the yard, where crops are now growing, for no accumulations of such substances were discovered.

While Mrs. Burk remains inclosed in solitude within her dismal abode, Mr. Burk, on the other hand, is said to spend but little of his time at home, and his neighbors certify that the vile smell and the lice which he brings from his filthy cabin into their shops and hotels are exceedingly annoying to them.

The annexed sketch shows that the log-house stands directly upon Front street, the main street of the village, and is surrounded with others of a far better class.

It is the testimony of the near residents that, in suitable conditions of the atmosphere, the sickening odors from the house are plainly evident to passers-by.

It would seem that the circumstances will justify the declaration that the house in question is a public nuisance in its present condition, and that it should no longer be tolerated as it is. The opinion of Mr. J. D. Hammond that the building is not worth repairing is amply justified, and it would seem, moreover, that only prolonged exposure to the action of air and sunshine can ever rid it of its accumulations of vileness.

It would be advisable to burn a sufficient quantity of sulphur within the house to destroy vermin concealed in its crevices, after first stopping up the holes as well as possible. This process should be repeated after a few days, in order to exterminate such insects as may hatch out after the first smoking. All articles of bedding and wearing apparel now within the house should share in the fumigation.

After the destruction of the vermin, which would otherwise invade the neighborhood, the owner's cheapest and best method of cleansing the premises would consist in the entire removal of the cabin, which is no longer a fit habitation for human beings.

Very respectfully yours,

HORACE ANDREWS.

ALBANY, *August* 10, 1885.

SECRETARY'S RETURN.

ALBANY, *August* 13, 1885.

ABNER C. WRIGHT, Esq., *Secretary Board of Health, Wellsburg, N. Y.:*

DEAR SIR — I transmit herewith a copy of a report by Inspector Horace Andrews, C. E., on the condition of the premises occupied by Burk and his wife, referred to in a previous communication from your board. In view of the facts stated by Mr. Andrews and of the close proximity of the hovel in question to neighboring habitations, I am of opinion that it clearly falls within the category of nuisances which sanitary authorities should order to be abated.

If the danger to health arose solely from accumulations of filth created by the tenants themselves, they could be compelled to remove these and to observe such rules of sanitary cleanliness as your board should prescribe; but if, as seems to be the case, insanitary conditions be inherent in the building itself, the owner, not the tenant, is responsible for these and should be ordered to abate them. In the present instance it is stated that no repairs or alterations can remedy the essential defects in the structure or render it fit for human habitation; if so, the owner can be directed to remove it altogether, in which case the eviction of the tenant would be a necessary part of the procedure, and the fumigation of the premises could be substituted by their destruction.

Wherever such a tenant may live, he is likely to create a nuisance and should be compelled to obey sanitary regulations.

I am, sir, faithfully yours,

ALFRED LUDLOW CARROLL, M. D.

COLD SPRING PUMP

Complaint.

WEEDSPORT, *November* 12, 1884.

To the Board of Health of the State of New York:

Herewith please find petition to board of health of town of Brutus and the action thereon in which the needful facts are stated and set forth, except as to efforts heretofore made, to have the evil remedied. These are that application has been made to the section canal superintendent and other canal officers to have a remedy applied by lowering the culvert under the bridge approach and, though its necessity has been admitted and promised at different times, fails of being applied, and, therefore, the action of your Board and its authority is respectfully invoked that the declared nuisance may be abated and its cause remedied, and your petitioners will ever pray.

In behalf of petitioners, respectfully submitted,

WILLIAM I. CORNWELL.

To the Board of Health of the town of Brutus:

The undersigned, citizens and residents of said town, respectfully represent that a public nuisance exists upon lot No. 57, in said town, prejudicial to health, caused by an embankment and approach to a bridge spanning the Erie canal at Cold Spring pump, and an insufficient culvert to permit the flowing off of water falling upon the surface of several hundred acres of land, and which accumulates upon some eight to twelve acres lying westerly from said embankment and southerly from and adjoining to the canal, where it remains, stagnates and saturates the land until evaporated, producing malaria, causing sickness and converting what would otherwise be good cultivatable land into a flag-hole of several acres, and which can be effectually remedied and abated by lowering the culvert in or under the bridge approach and the ditch leading to the culvert under the canal. Therefore, the exercise of your authority is invoked that the remedy may be applied, and your petitioners will ever pray, etc.

Dated *August* 1, 1884.

ELIJAH S. DRAKE,
JAMES E. CARR, M. D.,
HILAND A. WEED, M. D.
JOHN PERRY,
E. H. BATES,
JOHN G. BRADT,
CARLOMAN COPP,
WILLIAM D. ABBOTT,
I. T. MEECH,
GEORGE W. COLE,
F. L. DINGMAN,
G. E. TOWNSEND,
G. W. GARLAND,
A. W. ABBOTT,
E. O. BONTA,
W. W. ROCHE,
CHAS. E. ROBILLARD,
CHARLES P. DATTEN,
THOMAS C. WARD,
O. N. EVERTS,
WILLIAM. M. BRADLEY.

To the Board of Health of the town of Brutus:

The undersigned, health officer of said town, respectfully reports that he has examined the premises specified in the annexed petition, and inquired into the matter stated therein, and finds the facts relative to said premises, their location, accumulation and standing of water thereon, and causing a marshy flag-hole of several acres to be, as stated in said petition, and the same is undoubtedly productive of malaria, likely to affect the health of citizens in its vicinity, as it is certified to have done by Messrs. Carr and Weed, physicians practicing in that neighborhood; that he also finds that, while the State constructed a ditch and a culvert under the canal bridge approach to carry off the surface waters that must necessarily accumulate on said premises, their flow being obstructed by the embankment of the Erie canal, as well as those leading from the canal, the culvert under the bridge approach is at an elevation that does not permit of their being carried off, and that the *lowering* of that culvert would be an *efficient* and the *only* remedy for what is now a public nuisance, there being a culvert under the canal, a short distance east of the bridge, ample for carrying off the water.

Respectfully submitted,
E. O. BENEDICT,
Health Officer, town of Brutus.
November 6, 1884.

At a meeting of the board of health of the town of Brutus, held at the office of D. C. Knapp, in the village of Weedsport, on the 6th day of November, 1884: Present, Levi T. Hamilton, supervisor; Francis L. Batchelor, Darwin C. Knapp, Milton Reede and Dwight Cady, justices, and David W. Shaw, town clerk. Health officer E. C. Benedict made a report as to the matters contained in the petitions of Elijah S. Drake, James E. Carr, M. D., Hiland A. Weed, M. D., and others, which had been theretofore referred to said health officer for investigation, whereupon, on motion of Mr. Batchelor,

Resolved, That the matter complained of in said petition, and specified therein, and in the report of said health officer, is a public nuisance.

I hereby certify the foregoing to be true copies of the originals on file in this office, and of the whole thereof.

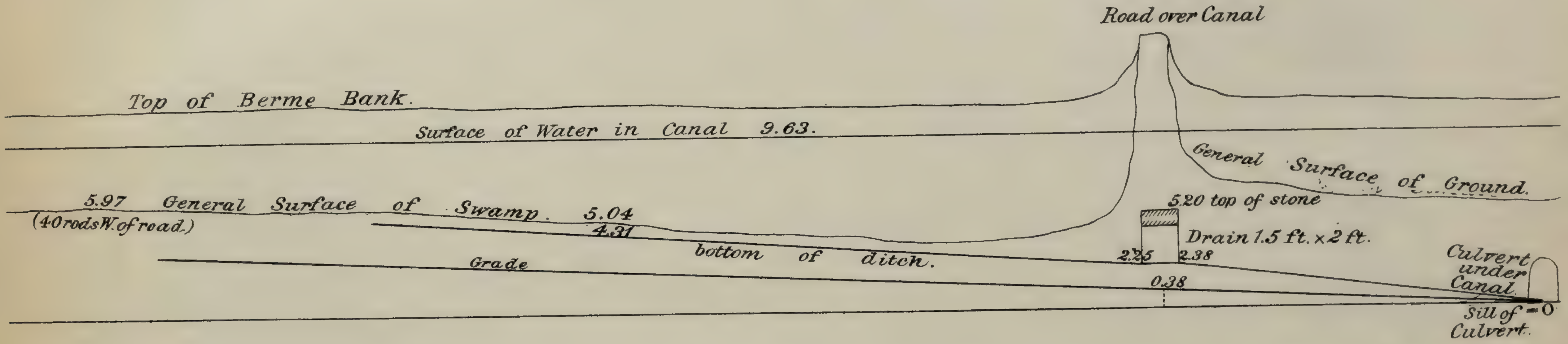
DAVID W. SHAW,
Town Clerk of Brutus, N. Y.

REPORT UPON A NUISANCE CAUSED BY SWAMP LANDS AT COLD SPRING PUMP, TOWNSHIP OF BRUTUS, CAYUGA COUNTY.

JAMES T. GARDINER, Esq., *Chairman of the Committee on Drainage, Sewerage and Topography:*

SIR — I have recently examined into the causes of complaint made in a petition from certain residents of the township of Brutus, Cayuga county, and have taken levels to ascertain whether the means of relief suggested in the petition were practicable. My report concerning the facts ascertained is herewith submitted. The accompanying sketch shows the general location of the swampy lands mentioned in the petition. The surface of the land immediately south of the Erie canal and lying just west of the dividing line between Cayuga and Onondaga counties is quite flat, and the natural drainage is to the northward.

The surface of the water in the Erie canal is three or four feet higher than the land to the south, and the natural drainage of the



Approximate Section along the South side of the Erie Canal at Cold Spring Pump.

country in the vicinity of Cold Spring pump is carried under the canal by a substantial and effective culvert, lying a few rods west of the county line. There is a piece of low and swampy land lying between the canal and the first road to the south of it, and between the first and second roads west of the county line, as shown on the sketch, which receives the drainage from a water-shed estimated at 400 acres. The area of the swamp is from eight to twelve acres, and it is for the most part quite wet, being covered with cat-tails and sedge-grass at places, and, to some extent, with trees.

The only means of draining the swamp referred to is a ditch flowing to the eastward, parallel to the berme bank of the canal, and passing under the north and south road at Cold Spring pump, through a drain eighteen inches wide and twenty-four inches deep. This ditch flows under the canal through the culvert before referred to, about 300 yards east of the road.

It is claimed by the inhabitants residing in the vicinity of the swamp that numerous cases of sickness have been caused by its malarious influences, and the physicians of the neighborhood are willing to make affidavit to the fact. The further claim is made that the State, by constructing the canal, has obstructed the natural drainage, and that the culvert provided under the road to the east of the swamp is improperly constructed, and cannot give means for the drainage of the swamp.

In order to verify the latter claim, I have taken levels which indicate upon the accompanying profile the relative height of the land and road culvert. It is seen that the ditch west of the road is very shallow, and that it cannot be deepened sufficiently to drain the adjoining land unless the drain passing under the road is placed at a lower level. Moreover, the drain under the road is of too small size to allow the surface drainage from so extensive a water-shed to escape freely; it is in fact adapted to receive the canal leakage and not much beside. It would seem as if the drain under the roadway had been constructed without due consideration of the extent of territory which must drain through it.

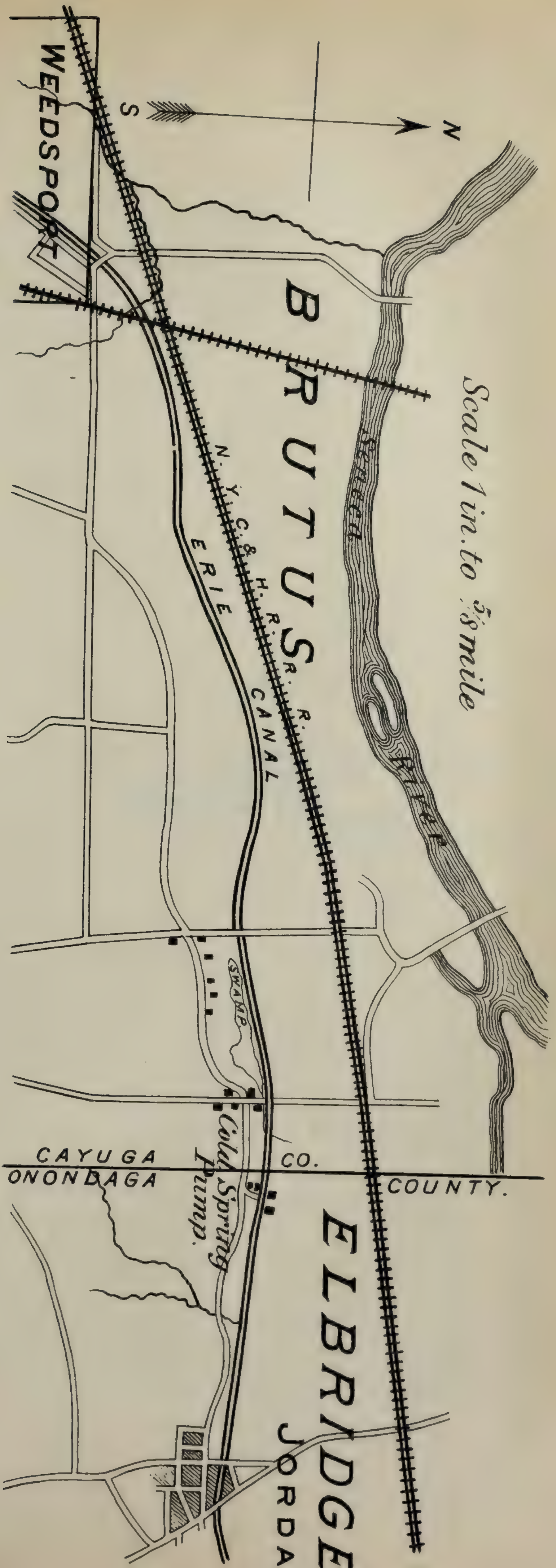
Under the circumstances it would seem that the State would be amply justified in enlarging and deepening the culvert under the roadway, and in clearing out and deepening the ditch at the foot of the berme bank. I would recommend that the bottom of the drain be lowered two feet below its present level, and that the drain be made at least two feet wide and three and a half feet deep. The ditch could then be dug to a depth of two feet to three feet and, with the lateral drains which the inhabitants agree to dig, the swamp could easily be reclaimed and placed in a good sanitary condition. Further to the west, along the canal, land that was originally swampy is now drained and is arable. The swamp complained of is stated to be in a much worse condition than before the canal was constructed, and the natural drainage prevented. As the swamp has been covered with trees till within a few years, no attempts have ever been made to cultivate the land.

The expenditure required to make the improvements suggested would be slight, and it would appear as if the State was in equity bound to furnish the inhabitants with the relief for which they have petitioned.

Very respectfully yours,

HORACE ANDREWS, JR., *C. E.*

ALBANY, *December* 4, 1884.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WEEDSPORT
BRUTUS
Seneca River
N. Y. C. & H. R. R. R.
ERIE CANAL
SWAMP
Cold Spring Pump.
CAYUGA CO.
ONONDAGA COUNTY.
ELBRIDGE
JORDA

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

FOOD AND DRUG AND BEER LAWS.

REPORT

OF WILLIS G. TUCKER, M. D., Ph. D.,

ANALYST OF DRUGS.

To Woolsey Johnson, M. D., *Chairman of the Sanitary Committee of the State Board of Health of New York:*

Sir — At a conference of the analysts, with the members of the Sanitary Committee, held in Rochester, July 30, 1885, the examination of drugs and medicinal substances generally, but more particularly of the officinal drugs and preparations of the United States Pharmacopœia, exclusive of the vegetable alkaloids and those preparations into which they enter, was assigned to me. The collection and examination of samples was begun September 1st, and I transmit herewith a report on the work done from that date to the present time. It was agreed that the analysts should engage their own collectors and, with the exception of a few samples purchased by myself, the articles examined by me have been collected under my direction by my assistant, Mr. A. G. Losee. The total number of samples collected and examined was 194, and the average cost of these samples, including collector's *per diem* and expenses, was a fraction over twenty-two cents.

In the selection of articles for examination, rarely used and unimportant drugs were excluded, and regard was had to the results previously obtained by analysts in this and other States, those articles most likely to be purposely adulterated, of inferior quality or impaired by age, being selected, that no time might be wasted in the examination of articles seldom prescribed or almost invariably pure. Preference was given to such articles as have a definite standard of purity assigned to them in the United States Pharmacopœia, since that work is particularly recognized in the Food and Drug Adulteration Law of 1881, and the pharmacopœial tests and analytical processes were commonly followed. Exhaustive analyses were not generally made, since they would have consumed much time to little profit, and limited the number of samples examined, but in the majority of instances at least one quantitative determination was necessarily made. All samples examined have been bottled and fully labeled, and the portion remaining upon the completion of the analysis has been preserved and full records of the same kept. Reports have been made to the Secretary of the Board, at the close of each month, upon the work done during the preceding month, and these have been accompanied with separate reports upon each sample examined.

Of the 194 samples examined 120 were of officinal drugs and preparations, and 74 of vinegar, which, although it has been dismissed from the United States Pharmacopœia at the last revision (1880), is still retained in those of most other countries. Vinegar, therefore, although generally classed with foods, may yet be considered a drug, and it having moreover been agreed that the analysts should not necessarily be restricted to the fields assigned them, and it being deemed advisable, for various reasons, to begin an investigation as to the quality of the vinegar sold in this part of the State, a number of samples were collected and examined, and it is proposed to continue this investigation by the collection of further samples in other localities.

I. DRUGS.

Of the 120 samples of drugs examined, 50 were procured in Albany, 27 in Troy, 20 in Hudson, 12 in Schenectady, and 11 in Amsterdam. With the exception of 12 samples of cream of tartar purchased at groceries they were all obtained at drug stores. Of the total number there were rated as of

Good quality	59 or 49.2 per cent.
Fair quality	35 or 29.2 per cent.
Inferior quality	23 or 19.1 per cent.
Sold by error	3 or 2.5 per cent.

Those classed as of "good quality" practically conformed to the requirements of the United States Pharmacopœia; those of "fair quality" fell not far below those requirements, while those rated as "inferior" were entirely fictitious (as in the case of some of the cream of tartars) or of very poor quality. In three cases the article sold did not consist of the substance called for.

The following were the articles examined:

Citric Acid. (*Acidum Citricum*, U. S. P.)

Three samples examined. Nos. 1, 4 and 11. Percentage purity respectively 99.73, 99.76, and 97.91. All of fair quality, containing traces only of metallic impurities.

Tartaric Acid. (*Acidum Tartaricum*, U. S. P.)

Four samples. Nos. 2, 10 and 59 of fair quality, containing traces of metallic impurities. Percentage purity respectively 97.82, 99.67 and 98.00. No. 3 consisted of *cream of tartar* of good quality, doubtless sold by mistake.

Iodide of Potassium. (*Potassii Iodidum*, U. S. P.)

Three samples, of which Nos. 5 and 8 were of fair, and No. 65 of good quality.

Bromide of Potassium. (*Potassii Bromidum*, U. S. P.)

Three samples, of which Nos. 6 and 7 were of fair, and No. 66 of good quality.

Santonin. (*Santoninum*, U. S. P.)

One sample, No. 9, which was of good quality.

Cream of Tartar. (*Potassii Bitartras*, U. S. P.)

Twenty-two samples, of which 10 were purchased at drug stores and 12 at groceries. Of the former *all* were real cream of tartar, 9 being of good, and 1 of fair quality. The percentage purity of these samples was as follows:

No. 12	87.19
No. 13	97.70
No. 14	94.92
No. 15	97.43
No. 16	97.80
No. 17	97.78
No. 48	97.67
No. 49	95.63
No. 50	98.73
No. 69	97.58

Average purity, 96.24 per cent.

Some of the commercial cream of tartar now sold is of an extraordinary degree of purity, there having been a great improvement in this respect during the last few years.

Of the 12 samples purchased at grocery stores, 2 were of good, 1 of fair, and 1 of inferior quality, while 8 were grossly adulterated or entirely fictitious. The percentage purity of the four first named was as follows:

No. 19	92.26
No. 20	81.47
No. 54	96.87
No. 56	79.31

Average of these four samples of real cream of tartar, 87.48 per cent, being much below that of the preceding samples obtained from drug stores. The remaining eight were made up as follows: Nos. 18, 21, 22 and 51 consisted chiefly of acid phosphate of lime and starch; No. 23 of sulphate of lime, starch and some cream of tartar, the acidity corresponding to 13.24 per cent; Nos. 52 and 53 consisted chiefly of sulphate of lime, starch and tartaric acid, the acidity of these samples corresponding to 31.57 and 30.56 per cent of cream of tartar, and No. 55, which was mainly sulphate of lime with some tartaric acid, with an acidity corresponding to 19.20 per cent.

The number of samples examined is too small and the territory in which they were collected too limited to base conclusions of much value upon the results obtained, though it would appear that a pure article is much more likely to be sold by the druggist than the grocer, whose so-called cream of tartar is often a mere imitation, and a very poor one at that.

Alcohol. (*Alcohol,* U. S. P.)

Six samples, Nos. 24, 25, 26, 27, 28 and 29; all were of good quality. The U. S. P. requires "91 per cent by weight of ethyl-alcohol." The percentage in these samples was respectively 91.14, 90.12, 90.16, 90.37, 90.30 and 90.87. Average, 90.49 per cent.

Stronger Ether. (*Aether Fortior,* U. S. P.)

Twelve samples, of which Nos. 31 and 32 were deficient in strength; Nos. 30, 104 and 117 were of inferior strength and quality; Nos. 111 and 114 were of fair quality, and Nos. 57, 99, 102, 106 and 120 were of good quality. No. 99 was labeled "Nitrous Ether" by mistake. Stronger ether, being largely used as an anæsthetic, ought to be of good quality, but these results show that an article of a quality inferior to that required by the pharmacopœia, is frequently offered for sale. The U. S. P. requires a specific gravity "not higher than 0.725 at 15 deg. C. (59 deg. F.)." The specific gravities of the twelve samples examined were as follows:

No. 30	0.737
No. 31	0.752
No. 32	0.739
No. 57	0.726
No. 99	0.724
No. 102	0.725
No. 104	0.744
No. 106	0.726
No. 111	0.724
No. 114	0.724
No. 117	0.747
No. 120	0.724

Purified Chloroform. (*Chloroformum Purificatum,* U. S. P.)

Twelve samples, of which Nos. 33 and 35 were of inferior quality and strength; No. 113 of fair quality, and Nos. 34, 58, 98, 101, 103, 105, 110, 116 and 119 were of good quality. The U. S. P. requires a specific gravity of 1.485–1.490 at 15 deg. C. (59 deg. F.) The specific gravities of the twelve samples examined were as follows:

No. 33	1.456
No. 34	1.488
No. 35	1.450
No. 58	1.493
No. 98	1.490
No. 101	1.489
No. 103	1.488
No. 105	1.488
No. 110	1.488

No. 113	1.487
No. 116	1.488
No. 119	1.489

Carbonate of Ammonium. (*Ammonii Carbonas*, U. S. P.)

Ten samples; of which Nos. 36, 115 and 118 were of good quality; No. 112 of fair quality, and Nos. 37, 38, 100, 107, 108 and 109 were of inferior quality, having undergone partial decomposition. In order to preserve this important medicinal agent in good condition it should be kept in well-stopped bottles and in a cool place. The results of the analyses made show that it is often carelessly kept and partly decomposed in consequence when offered for sale. The percentage purity of the ten samples was as follows:

No. 36	92.66
No. 37	66.44
No. 38	83.03
No. 100	65.91
No. 107	69.44
No. 108	67.87
No. 109	67.59
No. 112	79.68
No. 115	95.10
No. 118	96 95

Average of the ten samples, 78.46 per cent.

Chlorate of Potassium. (*Potassii Chloras*, U. S. P.)

Five samples, Nos. 39, 40, 41, 60 and 61, all of good quality.

Reduced Iron. (*Ferrum Reductum*, U. S. P.)

Six samples were examined, none of which came up to the pharmacopœial standard, which requires 80 per cent of metallic iron, but with the exception of No. 42 which consisted of *dried sulphate of iron*, sold through ignorance; the remaining samples, Nos. 43, 44, 62, 63 and 64 were considered of fair quality.

Gallic Acid. (*Acidum Gallicum*, U. S. P.)

Four samples, Nos. 45, 46, 47 and 68, all of good quality.

Dried Sulphate of Iron. (*Ferri Sulphas Exsiccatus*, U. S. P.)

One sample, No. 67, which was of good quality.

Water of Ammonia. (*Aqua Ammoniæ*, U. S. P.)

Five samples; Nos. 72 and 73 were of fair, and Nos. 70, 71 and 91 of good quality, though most of them contained slight traces of metallic impurities, sulphates, etc. The U. S. P. requires "ten per cent by weight of the gas." The percentage in the five samples examined was as follows:

No. 70	10.81
No. 71	15.50
No. 72	8.35
No. 73	7.89
No. 91	11.08

Benzoic Acid. (*Acidum Benzoicum*, U. S. P.)

Three samples, of which Nos. 74 and 95 were of good, and No. 75 of fair quality.

Oxalate of Cerium. (*Cerii Oxalas*, U. S. P.)

Four samples, Nos. 76, 77, 90 and 97, all of a fair degree of purity, though none of them corresponded precisely with the requirements of the U. S. P.

Magnesia. (*Magnesia*, U. S. P.)

Four samples, of which No. 92 was of good quality, Nos. 78, 79 and 80 only fair. This article is generally carelessly kept, and therefore partially carbonated by exposure to the air. It should be kept in well-closed vessels.

Washed Sulphur. (*Sulphur Lotum*, U. S. P.)

Four samples; Nos. 81 and 93 were of good quality, No. 82 consisted of *precipitated sulphur* sold by error, and No. 83 was *sublimed sulphur* or common "flowers of sulphur." The pharmacopœial requirements are plain, and there is no excuse for the sale of an unpurified article or other preparation of sulphur.

Oxide of Zinc. (*Zinci Oxidum*, U. S. P.)

Four samples, Nos. 84, 85, 86 and 94, all of fair quality.

Iodoform. (*Iodoformum*, U. S. P.)

Four samples, Nos. 87, 88, 89 and 96, all of good quality.

II. VINEGAR.

The seventy-four samples examined were all purchased at grocery stores, cider vinegar being called for in each instance. At a meeting of the Board held January 16, 1883, a standard was adopted for cider vinegar under and pursuant to section 4 of chapter 407 of the Laws of 1881, which standard was "not less than five (5) per cent of pure acetic acid" and "not less than one and one-half per cent of solid matters" on evaporation and drying at 212 deg. F. The Massachusetts Law of 1882 required the same percentages in the case of *all* vinegars, but in 1885 was amended and now requires "not less than four and one-half per cent by weight of absolute acetic acid" in *all* vinegars and "not less than two (2) per cent of cider vinegar solids" in *cider* vinegar, and it prohibits the sale not only of adulterated or weak vinegar, but of any vinegar for cider vinegar which is not made exclusively from apple cider, and likewise the use of any artificial coloring matter. This is a good law, for while vinegar made from spirits or otherwise may be equally wholesome, it ought not to be sold for cider vinegar, as is very frequently the case.

An article so largely used in the preparation of food as vinegar ought to be both free from adulteration and of good strength as well, but the results of the examinations so far made show that here as elsewhere wide differences in quality exist. The addition of mineral acids is very uncommon, but much vinegar is sold which has been plentifully watered, and the greater part of that sold as cider vinegar is a so-called white wine vinegar colored by caramel with perhaps some cider vinegar added to give it flavor.

Of the seventy-four samples of vinegar examined, thirty-five were purchased in Albany, nineteen in Troy, six in West Troy, four in Green Island and ten in Cohoes. Of the total number, eleven or 14.8 per cent, were found to contain five per cent or over of absolute acetic acid, and sixty-three, or 85.2 per cent, contained less than five per cent and therefore fell below the legal requirement; eighteen, or 24.3 per cent, contained 4 1-2 per cent or over, and 56, or 75.7 per cent contained less than 4 1-2 per cent. The highest percentage of absolute acetic acid was 6.2 per cent and the lowest 1.8 per cent, the average being 4 per cent.

Number.	Per cent Acetic Acid.	Number.	Per cent Acetic Acid.
121	4.1	142	2.9
122	6.2	143	4.4
123	4.0	144	4.6
124	4.1	145	4.3
125	4.8	146	3.3
126	3.5	147	3.2
127	3.4	148	4.0
128	5.2	149	3.9
129	4.1	150	5.2
130	3.3	151	4.3
131	5.5	152	5.0
132	4.3	153	4.4
133	3.5	154	4.2
134	3.8	155	3.0
135	2.3	156	3.8
136	4.2	157	2.9
137	4.7	158	5.0
138	4.9	159	4.2
139	5.0	160	4.2
140	3.8	161	5.0
141	3.6	162	4.3

Number.	Per cent Acetic Acid.	Number.	Per cent Acetic Acid.
163	3.6	179	3.4
164	3.6	180	4.3
165	3.9	181	4.5
166	5 4	182	4.1
167	4.2	183	2.7
168	3.7	184	3.5
169	3.9	185	3.8
170	4.3	186	5.5
171	5.0	187	3.4
172	4.9	188	2.8
173	4.4	189	3.2
174	2.4	190	3.3
175	2.5	191	3.5
176	3.5	192	3.6
177	3.7	193	4.5
178	1.8	194	4.4

Other analyses made for the Board have been as follows :

WATER.

Four samples. One of these was from a city well, and furnished so striking an example of drinking water contaminated by excrementitious matter, probably serving as the medium of disease transmission, that the report made at the time is appended.

ALBANY, *September* 10, 1885.

DR. A. L. CARROLL, *Secretary State Board of Health, Albany, N. Y.:*

DEAR SIR — I have made an analysis of a sample of well water from premises No. 308 Third street, Albany, sent to me September 5, 1885, by Dr. B. U. Steenberg of Albany, by request of Mr. Carman. The results point to gross contamination of the water. A death from diphtheria occurred in this house very recently and three other deaths from the same disease are known to have occurred in the immediate vicinity within a short time. I visited the premises on the 5th inst., with Dr. Steenberg and found the well, said to be thirteen feet deep, dug in a sandy soil and situated directly in the rear of the house. A privy with vault said to be eight feet deep and full to the surface of the ground, was situated about seventy feet from the well. A drain pipe from the second story of the next house on the east discharged within a few feet of the well upon the surface of the ground, the slop water, etc., from the same flowing back upon the lot and soaking into the ground. The condition of things described as existing upon these premises is essentially the same in all others in this neighborhood. There is no drain in the street, as I am informed, west of Thornton street and no water mains laid. Foul privies abound on all sides, and the water supply is drawn from shallow wells dug in sand, in some cases within a *few feet* of the privies. Much drainage is discharged upon the surface of the ground, and as there are no pavements in this immediate locality it soaks into the sandy soil. Such a condition of things is in the highest degree insanitary, and it is certainly not surprising if diphtheria, typhoid fever and other infectious diseases are of frequent occurrence, as is said to be the case.

Analysis.

Color and appearance	Clear, Colorless.
Odor at 100 degrees F.	None.
Chlorine, grains per U. S. gallon	13.42
Free ammonia, parts per million	6.400
Albuminoid ammonia, parts per million	0.340
Total solids, grains per U. S. gallon	88.72
Loss on ignition, grains per U. S. gallon	43 78
Mineral matter, grains per U. S. gallon	44.94

Very respectfully yours,
WILLIS G. TUCKER.

Samples of water from Kingston (city water supply) and from Oneida lake (two analyses) were also analyzed. The former were reported October 9, and the latter November 10, 1885.

KEROSENE.

Six samples have been submitted for examination with the following results:

Flashing point.	Degrees F.
No. 8686	100
No. 8687	100
No. 8688	100
No. 8689	100
No. 8690	99
No. 8691	100

All of which is respectfully submitted.
WILLIS G. TUCKER,
Analyst.

CHEMICAL LABORATORY, ALBANY MEDICAL COLLEGE, ALBANY, N. Y., *February* 22, 1886.

REPORT

OF G. C. CALDWELL, Ph. D.,

ANALYST OF ALKALOIDAL MEDICINAL PREPARATIONS.

Chemical Laboratory, Cornell University,
February 10, 1886.

To the Secretary of the State Board of Health :

Dear Sir — I beg to submit the following report of work thus far accomplished in the examination of alkaloidal medicinal preparations. The work was begun September 1, 1885.

The assay of quinine pills.— No method of assay of this preparation is given in the Pharmacopœia.

The determination of the total quantity of alkaloid in the pills may be made in two ways, both of which depend upon the liberation of the quinia from the acid by a stronger base, the extraction of this alkaloid by ether, the expulsion of the ether from the solution thus obtained, and the drying and weighing of the residue. As this residue may contain other alkaloids besides quinia, the pharmacopœial test of purity must be applied to it before the assay can be regarded as completed.

These two methods of determining the total alkaloid in the pills differ only in respect to the treatment for the liberation of the quinia from the acid, and the mode of extracting the quinia by ether. By one method, described by Allen for the assay of quinine preparations generally, the solution of the substance in acidified water is treated with ammonia, and the precipitated quinia is then taken up by ether. By the other method first described by Parsons, the pills are softened with a small quantity of water, freshly slacked lime is added, the mixture is dried, pulverized, transferred to a continuous extractor and treated with the ether for several hours.

The manipulation of the first method is much easier and more satisfactory; but Mr. Parsons claimed for the second method a greater degree of accuracy; after the mixture of substance and lime is once safely transferred to the extractor, it is probable that the manner of making the ether extract will generally yield a purer solution of alkaloid ; for nothing but pure, stronger ether comes in contact with a mass supposed to contain nothing soluble in such ether except alkaloids. In the case of the other method, ether saturated with water is agitated with an aqueous, ammoniacal solution of so much of the pill as is soluble in water, and opportunity is thus afforded for the solution of other matters besides alkaloids ; but the range of solvent power of ether saturated with water is probably but little greater than of pure ether. I am not aware how far the difference between the two has been carefully tested, so far as it bears on the point under discussion. I hope to be able soon to make such tests myself.

The pulverizing of the dried mixture of lime and pill substance must, of course, be very complete, in order that no particles of the quinia shall be mechanically inclosed in the large mass of substance that is entirely insoluble in the ether, and is thus quite capable of protecting such inclosed quinia from solution. I have found this pulverization very tedious; and the transferring of this fine, dry and sometimes rather adhesive powder from a mortar to the extractor is not the kind of an operation that a chemist likes to perform in quantitative work. Other and more serious objections to the method were brought out in my very brief experience with it.

Those who are familiar with the continuous ether extractor are aware that a tolerably rapid percolation of the ether through the mass to be extracted is essential. In the case of the second sample of pills that I attempted to assay by this method, the powdered contents of the extractor were, for some reason, converted on contact with the ether into a hard and perfectly impervious mass, on which the ether stood for twenty-four hours without the passage of a drop through it. Of course the assay was an entire failure. The fourth sample of pills, of which an assay was also attempted by this method, behaved in precisely the same manner. I had taken it from my numbered collection without noticing the name of the maker; it proved to be the same that had given me trouble in the first instance. Such a result, after having carefully executed the most tedious part of the work, is discouraging, to say the least, even if it may not often occur.

The second objection to the method affects its accuracy, and might not have been brought to light if I had not at the same time checked this method by the other. On preparing the solution of another sample of pills (No. 19) for the other method, it appeared that they contained a notable quantity of a fatty substance, which by the dry method would be extracted and weighed as quinia; by the solution method, as I conduct it, this fat is at once detected and removed, with other insoluble matters by filtration, before the liberation of the quinia and its solution in ether. These two-grain pills, assayed by the dry method, gave a result corresponding very closely to the two grains of crystallized sulphate of quinia per pill; but, assayed by the solution method, which, in this case, would unquestionably give a more reliable result, it corresponded to but one and three-quarters grains to the pill.

The degree of accuracy of the solution method was tested by the assay of a solution, containing a known quantity of a reliable brand of sulphate of quinia, together with the usual proportions of other ingredients commonly used in the preparation of the pills, such as glucose, gum-arabic and gelatine; several weighed portions of such a solution were subjected to analysis. It being stated that some glucose may be dissolved by the ether in this operation, and thus a too high result obtained, the residue of quinia by the first precipitation and extraction was dissolved by dilute sulphuric acid, and the quinia was again precipitated by ammonia, and taken up by ether. The results are given in per cents of the quality of quinia that should have been obtained if the process were perfect.

Assay Number.	Per cent.
1	100.00
2	98.01
3	99.42
4	97.80

Average, 98.8 per cent.

Four samples of pills have thus far been assayed by this method, and also partly by the dry methed. The manner of conducting the solution method is essentially the same as described by me in a former report to this Board,* except that, instead of dissolving a small number of the pills in the graduated tubes in which the assay is made, a filtered solution of a larger number of pills, representing from fifty to seventy-five grains of the sulphate, is prepared, and two or more parts of the solution, carefully weighed, are subjected to the assay.

The results of the examination of these four samples are given in the following table, calculated to grains per hundred pills of sulphate of quinia, with seven molecules of water of crystallization, which, according to Parsons, is all the water that need be allowed. Stronger ether was used in all cases.

No. of Sample.	Put up by	Where purchased.	SULPHATE OF QUININE, FORMED. (Grains per pill.)			
			Dry method.		Solution method	
18	McKesson & Robbins.	Ithaca	192	197	194	194
19	Tilden & Co.	Ithaca	206	....	179	172
20	Otis Bros.	Binghamton	....	....	228	231
22	Keasby & Mattison	Binghamton	....	....	92.8	92

The discrepancy in the results by the two methods in the case of sample 19 is explained above; the second result by the solution method is not, in this case, obtained by the assay of a second portion of the solution, but by solution, re-precipitation and re-solution by ether of the product of the first assay; in the other cases the two results represent assays of two separate portions of the same solution. Samples 18, 19 and 20 were two-grain pills; sample 22, one-grain.

The tests of the purity of the alkaloid obtained in these assays yet remain to be made.

Assay of Citrate of Iron and Quinine.

The assay of this preparation was conducted in the same manner as in the case of the pills, except that, as the citrate dissolves more or less readily to a clear liquid, the solution of a weighed quantity was made directly in the assay tube. The Pharmacopœia prescribes for the assay the use of potash as a precipitant of the alkaloid, in the presence of tartaric acid, and chloroform as the solvent of the alkaloid. By the use of ammonia and stronger ether instead of potash and chloroform, the residue of quinine obtained appears to be purer, because less colored, the necessity of using tartaric acid is avoided, and the manipulation is more convenient.

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* Second Annual Report of the State Board of Health of New York, p. 697.

The following tests of the accuracy of the method were made with weighed portions of a solution containing citrate of iron and ammonia and a known quantity of sulphate of quinia; the results are given in per cent of the quantity that should have been obtained if the method were perfect.

Number.	Per cent.	Number.	Per cent.
1	98.64	7	99.15
2	100.02	8	99.01
3	100.04	9	101.30
4	99.07	10	101.10
5	99.05	11	101.10
6	98.93		

In the case of the last three results, the ether was very vigorously shaken up with the aqueous liquid in the tube, while in the other cases the agitation was more gentle, but was continued as long as any undissolved particles of quinia were visible. In my assays of samples of the citrate the method of moderate agitation was followed.

The results above given appear to justify my dependence on the ammonia-ether method of assay as trustworthy.

The U. S. Pharmacopœia of 1880 states that the citrate of iron and quinine should yield a quantity of quinia, when assayed by the method there described, equivalent to twelve per cent of the original citrate.

The results of my duplicated examinations of this preparation are given below.

No. of sample.	Said to be put up by —	Where purchased.	Per cent of quinia found.		
1	McKesson & Robbins	Ithaca	8.93	8.99	
2	Powers & Wightman	Ithaca	9.66	9.70	
3	Charles T. White & Co	Ithaca	9.36	9.06	
4	Rosengarten & Sons	Ithaca	11.54	11.75	
5	C. W. Holmes	Elmira	7.08	7.17	
6	McIntyre & Embury	Elmira	10.48	10.88	
7	Unknown	Elmira	9.16	9.24	
8	McKesson & Robbins	Elmira	10.13	10.07	
9	Fraser & Lea	Ithaca	4.09	4.02	
10	Billings, Clapp & Co	Syracuse	3.36	3.41	
10	(Re-examination)		3.40	3.42	
11	Hall & Rückel	Syracuse	7.75	7.83	
11	(Re-examination)		7.79	7.75	
12	Mellinckrodt Chemical Works	Syracuse	10.72	....	
14	Tarrant & Co	Owego	11.10	11.12	11.07
15	E. R. Squibb	Binghamton	10.63	10.71	
16	Sharp & Dohme	Binghamton	9.14	9.43	
17	Schieffelin & Co.	Binghamton	10.48	9.31	
21	Charles Pfizer	Binghamton	5.85	5.87	

Inspection of the table shows that the quality of the citrate is quite variable, and that in some cases it falls so far below the standard that its medicinal effect cannot but be notably affected.

In the last report of the Massachusetts Board of Health, Lunacy and Charity the results of the examination of fifteen samples of citrate of iron and quinine are given, showing a range of from 8.68 to 12 per cent.

As in the case of the pills the quality of the alkaloid in these samples of citrate that I have assayed still remains to be tested.

Respectfully submitted,
G. C. CALDWELL,
Analyst.

REPORT

OF SAMUEL A. LATTIMORE, Ph. D.,

PUBLIC ANALYST,

ON

EXAMINATION OF DRIED APPLES.

The investigations on which this report is based were undertaken at the request of the President of the State Board of Health, in view of the vast and rapidly increasing quantities of dried apples and other dried fruits found in the market. It was deemed important that the manufacturing processes employed in preparing an article of food which is coming so rapidly into general use should be critically examined in order to ascertain if it suffers any unnecessary deterioration, or is treated with any foreign substances whose use might be considered prejudicial to health.

Until within a recent period the drying of fruit has been conducted only in the most primitive manner and without the aid of any facilities specially designed for such purposes. The heat of domestic fire indoors, or the warmth of the sun without, or, at most, a small and generally rude building containing a rough furnace sufficed to furnish the supply of dried fruit required for home consumption, with perhaps a slight excess for sale. The tough and leathery character of sun-dried fruits, and the brown and charred appearance of those dried by artificial heat did not recommend them to the taste. Their digestibility and nutritive value were greatly impaired. Under such circumstances the supply met the limited demand.

Gradually a higher degree of skill was applied to this industry, and the primitive methods have been greatly improved or rather entirely supplanted. An important stimulus in this direction was given during the late war under the exigency of the demand for vegetable food for our armies in the field, which sanitary science had long since shown to be so salutary and necessary. Fruits and vegetables in their fresh state were too perishable and bulky to bear transportation. Canned fruits and vegetables, while admirably preserving the natural qualities of the fresh article, retained all the original moisture or water averaging perhaps nine-tenths of the whole weight, often with the addition of still more water, thus increasing the weight of an article already heavy in comparison with the quantity of real nourishment contained in it. The great desideratum of getting clear of this large quantity of water, thereby reducing the bulk and weight to a small fraction of the original, and at the same time rendering it capable of almost indefinite preservation and consequently of easy and cheap transportation, became for the first time clearly apprehended and led at once to the invention of greatly improved processes, based on an intelligent understanding of the principles involved.

A second stimulus was furnished, at least in many of the States of the Union, by the vast increase of fruit production in recent years. The irregularity of the fruit crop has shown the desirability of possessing some means of utilizing the maximum production which often exceeds the demand of the accessible markets during the limited period within which so perishable a commodity can be preserved. It was plain that some more rapid mode of drying would in a great measure meet this difficulty. These two main causes, conspiring with others of minor importance, have within a few years practically created a new industry, the extent and economic importance of which is even yet scarcely appreciated by the public. The extent to which inventive genius has responded to this demand is abundantly manifest in the multitudes of mechanical appliances which have been devised and patented for this purpose.

This industry presents some peculiar and interesting features involving certain economical as well as sanitary aspects. It deals with a raw material which is very bulky and exceedingly perishable and, therefore, unsuited for profitable transportation. Consequently the process of manufacture can never be profitably conducted at a distance from the place of production. It can never be concentrated in large establishments as are many other industries. The drying-house or *evaporator*, as it is technically called, must be near the orchard. Again, the present processes are of the simplest character and may, therefore, be successfully conducted by unskilled persons at low rates of compensation. An evaporator of convenient capacity is accordingly becoming a very common part of the equipment of the farmer who possesses an orchard even of moderate size, or in some neighborhood where fruit abounds, an establishment is erected of such proportions as to consume many thousands of bushels of apples during the season. This industry is in active operation for a period extending over several months, beginning with the earliest ripening fruit and continuing as long as winter apples can be preserved in sound condition, throughout the greater part of the winter season. A new source of income has in this way been opened and already has taken an important place among the industries of the country, and in no State more pre-eminently than in New York. The production of a new, palatable, and wholesome article of food at a very moderate price has naturally been met by a rapidly increasing demand at home and also in foreign countries, as shown by the large quantities exported.

Appreciating the magnitude of this industry and the fact that a practically new article of food is being placed on the market and consumed in enormous quantities, and that this food passes through a manufacturing process, which though simple and inexpensive, and but imperfectly understood by the public, may possibly affect its wholesomeness, it was deemed the duty of the Board of Health to investigate as far as possible, the processes commonly employed in the drying or evaporating of apples, and also the nature and quality of the product as to its value as an article of food. It is proper to say that no complaint or plausible ground of suspicion has led to this investigation, but it has been undertaken simply to obtain definite information on a subject of public importance.

It may be well to explain that in the trade the term *evaporated* has assumed a technical signification, and is applied only to fruits dried by some one of the rapid modern processes, and is used in contradistinction to the term *sun-dried*, the meaning of which is self-evident. *An evaporator* is the apparatus used, however large or small.

The process has been studied in both large and small establishments and upon different forms of evaporators. While each of these may claim certain special merits, it is not necessary, for the purposes of this report, to enter into a description of the details of any of these forms of apparatus, or to discuss their several advantages. It will suffice to describe the process in general terms. The apples are pared, cored and sliced by machines, which are operated with great rapidity, either by hand or steam power. The slices, which are about half an inch thick, are placed in shallow trays or drawers, which are transferred to a closed box. In the base a small quantity of sulphur is kept burning. The arrangement is such that a number of these trays may be introduced at the same time, one above the other, and yet be exposed to the fumes of the burning sulphur — sulphurous acid — as it circulates among them, and finally escapes into the chimney. The object and effect of this treatment will be considered in a subsequent paragraph. After being submitted to the sulphuring treatment the slices are transferred to the drying screens. These consist of light rectangular wooden frames supporting the wire cloth woven of iron wire coated with zinc — *galvanized.* The size of the screens depends on the size of the evaporator. The sliced apples are spread on these screens in thin layers, and speedily transferred to the evaporator, which usually is constructed to hold a large number of screens at the same time. The heat is usually obtained from a simple furnace or stove, by the use of wood or coal. In some of the larger establishments steam heat is employed with advantage. It is highly important to keep the temperature within certain limits. If it is too low, the time of evaporation is too long; if too high, the fruit is charred. The temperatures observed in various forms of evaporators was found to vary from 95 deg. F. to 290 deg. F. About four hours suffice with this range of temperature to effect the evaporation of apples. The dried fruit is now removed from the screens, and thrown into large heaps, where it is suffered to remain until it is convenient to pack it in cases or barrels. The common cases are made to hold fifty pounds of evaporated fruit when it is tightly compressed by powerful machinery. The product is now ready to be sent to market.

It is found in practice that from eight to nine bushels of apples, weighing approximately fifty pounds per bushel, are required to make one case of fifty pounds of evaporated product. In other words, about seven-eighths of the weight of the green fruit are expelled in the process of evaporation, in the form of water, the remaining one-eighth representing the whole of the valuable nutriment of the fruit.

In order to fairly represent the value of evaporated apples as an article of food, the following analyses were made. Fully-ripened fruit was selected and prepared for treatment in the ordinary way. One portion was then evaporated while the other was reserved for analysis in the fresh state. The analysis of the two samples gave the following results, marked No. 1 and No. 2. As representing a low grade, the analysis marked No. 3, of a sample of southern sun-dried apples, is selected:

	No. 1.	No. 2.	No. 3.
Water	87.10	12.37	15.70
Fruit sugar	6.24	43.66	31.31
Malic acid	.35	2.50	2.74
Dextrose and pectin	1.93	13.50	11.10
Nitrogenous substances	.28	1.38	1.12

These analyses are chosen from those made, as fairly representing the extremes found in many samples obtained in the open market, without selection, and coming, doubtless, from different parts of the country. It should be remarked that a wide variation was found in the moisture or water contained in evaporated apples, ranging from ten to twenty per cent of the total weight. It is practically impossible to expel the moisture entirely in the process of evaporation. Just what proportion should be allowed to remain is difficult to define. The present methods of evaporation, on account of the unavoidable fluctuations of temperature, are not capable of producing constant and exact degrees of desiccation. Again, it is quite probable that different varieties of apples would be found to retain their native moisture with different degrees of tenacity.

Possibly it may be undesirable to expel the moisture to a greater extent than is attained in the more carefully-managed establishments, as a higher temperature or a longer treatment, or both, would be required, and in that case the sugar and other valuable constituents would begin to suffer decomposition, and the product would suffer injury. Evaporated apples are highly hygroscopic, and when exposed to damp air absorb a very considerable quantity of moisture. Hence the advantage of packing them solidly in cases, whether for transportation or preservation.

This investigation has revealed only two processes in the manufacture of evaporated apples which may raise a question as to their admissibility on sanitary grounds. One of these is the *sulphuring* *process* already described. As is well known the pulp of apple when exposed to the air darkens in color. The rapidity and extent of this change differs in different varieties; it is more marked in fully-ripened apples, and those containing the smallest per cent of acid. The fairer the color of the evaporated product the more it is appreciated by the consumer.

Several means have been employed to prevent this change of color. A very dilute solution of salt is efficacious, but its use is inconvenient and prolongs the drying process, and so far as ascertained is not in use. The almost universal practice is to use sulphurous acid derived from the burning of a small quantity of sulphur. A few moments' exposure of the sliced apples to this gas is sufficient to preserve the natural color during the subsequent evaporation. The question naturally arises, whether the dried fruit retains any of the sulphurous acid? In no case has the writer found any trace of this acid in evaporated apples or other fruit. In the absence of this acid, or any salts formed from it, the question may still arise whether it may not have been converted by oxidation into sulphuric acid, which would remain either in the free state or combined in the form of alkaline sulphates.

In explanation of the failure in every instance to find traces of free sulphuric acid, it may be alleged that in presence of alkaline salts of the organic acids it could not remain in the free state but would naturally enter into combination with the bases of these salts forming the corresponding sulphates. The solution of this question becomes far more difficult from the fact that fruits, in common with most vegetable substances, contain, among their mineral constituents, sulphates. Phosphoric acid is the chief mineral acid found in the apple and is usually present to the extent of 0.2 per cent. The sulphuric acid may be placed at half that quantity, or 0.1 per cent. As it is highly probable that the quantity of sulphates, small as it is, may vary with varying conditions of soil and climate, it would require a large number of analyses to fairly establish the limits of normal variation. Should it appear that the quantity of sulphates found in sulphured apples always exceeds the normal quantity, the excess would very reasonably be credited to the treatment. The comparative analyses of the samples of the same fruit, part of which had been treated with sulphur and part not, showed no wider difference than may be fairly referred to permissible error of experiment. The largest quantities found were so trivial that the writer cannot entertain the opinion that it exceeds the quantity of sulphuric acid normally belonging to that particular sample. It seems entirely reasonable that, during the brief exposure of the sliced apples to the action of the sulphurous acid, the gas is partially absorbed by the moist surfaces, but without penetrating the substance of the pulp, and that, when immediately afterward it is introduced into the evaporator, with a temperature at or often far beyond the boiling point of water, the sudden and rapid evaporation beginning over every part of the surface sweeps away with the cloud of steam every trace of this volatile acid.

The second step in the manufacturing process which has attracted attention on sanitary grounds is the fact that the screens, on which fruits are commonly dried, are made of wire cloth, protected with a coating of zinc (galvanized). The question very naturally arises whether the acid juices of the fruit do not attack this coating of zinc, forming a poisonous salt which may adhere to the fruit in larger or smaller quantity. The application of the most sensitive tests to apples, known to have both been treated with sulphurous acid and subsequently dried on galvanized screens, failed to indicate the slightest traces of the metal zinc. Nevertheless the screens suffer oxidation somewhat rapidly, and must be renewed after a few seasons' wear, and it seemed desirable to ascertain what becomes of this lost metal. A sample of galvanized iron-wire cloth, with meshes one-fourth of an inch in diameter, such as is commonly used, was found to contain thirty-three per cent of its weight of zinc. A second sample of a similar screen, which had been worn out by three seasons' use, was found to contain nine per cent of zinc. We have here a loss of twenty-four per cent of zinc, which, considering the quantity of the wire fabric required in a single evaporator, amounts to a very considerable weight. A careful examination of the screens, however, while in use furnishes an explanation of this disappearance of the zinc from the iron wire.

As the dried fruit is swept from the screen on its removal from the evaporator, it is seen that the saccharine juices of the fruit had been rapidly evaporated in contact with the heated metal gauze, closely investing it as with a varnish. Where the sliced fruit happens to adhere slightly to the screen, its removal usually leaves a film adhering to the screen, instead of stripping away the more adherent coating of the wire. From this cause the meshes of the screens are rapidly closed to such an extent that the free circulation of the hot-air among the screens, which are placed one above the other, is obstructed. To meet this difficulty it becomes necessary at very frequent intervals to remove these accumulations from the screens, which is done by a vigorous scrubbing with water and brooms or stiff brushes. It is in this process, perhaps daily repeated, that so much of the zinc as may have been rendered soluble either by the sulphurous acid or by the acids of the fruit itself, is washed away, until the iron wire begins to be exposed and the screen becomes unfit for further use.

In conclusion, it appears plain that there can exist no well-founded cause of apprehension as to any dangerous contamination of evaporated apples or other fruit from either of those two sources. It is certainly a matter of congratulation that in the manufacture of an article of food already so extensively used and likely to come into still more common use, there exists but slight possibility of any deterioration of the nutritive value of the product by the addition, incidentally or otherwise, of any foreign substance. The process of evaporation is simply the rapid removal of the greater part of the water present in the green fruit, at such a temperature as to preclude any important chemical changes in any of the several constituents. Consequently the addition of the same quantity of water at any subsequent time restores the dried pulp to a condition very closely approximating, both in taste and nutritive value, the fruit in its original state, and differing widely from fruit slowly dried by days of exposure in the open air.

The evaporating process, therefore, renders one of the most perishable of food articles capable of almost indefinite preservation without loss or deterioration. It renders a bulky article exceedingly compact, as evinced by the fact that a single case containing fifty pounds, and occupying less than two cubic feet, represents the entire nutritive value of from six to eight bushels of green apples weighing from three to four hundred pounds. The process of effecting this result is of the simplest and most inexpensive nature. Transportation is thus greatly facilitated, and a new article of the greatest hygienic value is added to the supplies of the army and navy.

It would be interesting to form a trustworthy estimate of the magnitude of this industry, which is almost exclusively confined to the United States. Reliable statistics, however, are unattainable for even a single State. "The Producers' Price Current" of January 2, 1886, reports the number of packages — a term which includes barrels as well as the ordinary fifty-pound packing case — received in New York city alone, during the year 1884, at 175,565, and, for the year 1885, at 143,981. The number of packages exported from New York during the same years is stated to be 98,455 and 76,596. At the last meeting of the New York Horticultural Society reports were read estimating that the production of evaporated apples in the four counties of Niagara, Orleans, Genesee and Wayne for the past season reached 7,425,000 pounds, or 148,000 boxes. It is believed by those who are inclined to consider this estimate too high, that the product of the State of New York for the last season is not less than 8,500,000 pounds. This quantity of evaporated product required nearly a million and a half bushels of green apples.

It may be added that enormous quantities of other fruits are being evaporated in the same manner.

From these considerations it appears that this rising industry is of great importance, not only in its economic aspects in rendering an extremely perishable commodity capable of indefinite preservation, in reducing all that is valuable in a bulky article to a small space, thus rendering it easily transportable, but especially in furnishing a most wholesome and valuable article of food at a price which places it within the reach of the humblest.

S. A. LATTIMORE.

REPORT

ON THE

EXAMINATIONS OF BEERS.

REPORT ON BEER.

To Hon. Erastus Brooks, *Chairman of the Executive Committee:*

Sir.—I have the honor to submit the following report on the work assigned to me by resolution of the Board, passed June 15, 1885, namely: Resolved, That the assistant secretary be authorized to make arrangements for the collection of samples of spirituous, fermented or malt liquors for analysis in accordance with chapter 176 of the Laws of 1885, and that the whole business arrangement for the enforcement of said law be referred to him under the direction of the Executive Committee.''

REPORT.

This law requires that "the Board shall at least once in the calendar year cause samples to be procured in public market or otherwise, of the spirituous, fermented or malt liquors distilled, brewed, manufactured or offered for sale in each and every brewery or distillery located in this State, and a test sample or analysis thereof to be made by a chemist or analyst duly appointed by said Board of Health."

The provision being thus specific, the question of the best method of carrying out its intent was the first confronted. Many difficulties incumbered the purchase of these samples, mainly in open market, owing to the very great number of saloons involved. To ascertain the particular brand sold in each would have needed more time and expense than was at command. There was also risk of such collections being imperfect, and the brewers unfairly and incompletely represented.

It seemed more feasible, therefore, to collect the samples directly from the breweries and to supplement them by others purchased in the saloons, thus at once showing the character of the beverages as brewed and as actually retailed to consumers. This course was finally adopted.

By correspondence with the Internal Revenue Department, an official list was obtained of all the brewers and distillers in the State, and these were properly recorded in a register specially prepared for the purpose.

In order that the brewers might be fully apprised of the law, the following notice was mailed to their various addresses:

NOTICE.

The State Board of Health hereby notifies all distillers or brewers of spirituous, fermented or malt liquors in the State of New York, that on April 29, 1885, the Legislature passed a law known as chapter 176, a copy of which is appended to this statement.

This law, in addition to the duties covered by chapter 407 of 1881, concerning which regulations of the Board have already been framed and published, specifically imposes upon the State Board of Health the duty of making at least annually an examination of samples of the "spirituous, fermented or malt liquors distilled, brewed, manufactured or offered for sale in each and every brewery or distillery located in this State."

The State Board of Health at its annual meeting in New York city, on May 14, 1885, adopted measures for the carrying out of the spirit and purpose as well as the letter of the proposed law.

The State Board of Health hereby gives notice that in this as well as in all other matters intrusted to its administration it will endeavor to discharge its duty impartially, without fear or favor, relying upon the co-operation of all good citizens and upright manufacturers for the successful enforcement of the statute.

While in no case will violations of the law be condoned or connived at, yet the investigations will be conducted in a spirit of fairness and with a proper regard for all vested business interests.

Information of the violation of any of the provisions of the statute will at all times be gladly received at the Central Office, where such use of it will be made as in the judgment of the Board will best carry out the intent of the law and best conserve the interests of the public.

ALFRED LUDLOW CARROLL, M. D.,
ALBANY, *June* 20, 1885. *Secretary.*

By resolution of the Board, Dr. Englehardt was elected chemist to analyze the various samples. Having before served the Board acceptably as chemist in the department of wines, beers, spirits and cordials, under the old law, "To prevent the adulteration of food and drugs," his selection was considered the best that could be made.

The limited funds at the Board's disposal for the work, $3,000, made it necessary to secure the lowest possible terms for each analysis as otherwise the number to be made would have exhausted an appropriation many times larger. An arrangement was finally entered into with Dr. Englehardt by which he agreed to make the analysis at minimum rates, and the following form of analysis agreed upon:

Color ....
Transparency ....
Specific gravity ....
Alcohol by weight, per cent. .
Extractive matter, per cent...
Sugar, per cent ....
Ash, per cent ....
Phosphoric acid, per cent
Water, per cent ....
Substitute for hops......
Substitutes for malt ....
Remarks:
Analyst.

The law provides that the " samples shall be kept in vessels and in a condition necessary and adequate to obtain a proper test and analysis of the liquors contained therein. The vessels containing such samples shall be properly labeled and numbered by the secretary of said Board of Health, who shall also prepare and keep an accurate and proper list of the names of the distillers, brewers or vendors, and opposite each name shall appear the number which is written or printed upon the label attached to the vessel containing the sample of the liquor manufactured, brewed, distilled or sold. Such lists, numbers and labels shall be exclusively for the information of the said Board of Health, and shall not be disclosed or published unless upon discovery of some deleterious substance prior to the completion of the analysis, except when required in evidence in a court of justice. The samples when listed and numbered shall be delivered to the chemist, analyst, or other officer of said Board of Health, and shall be designated and known to such chemist, analyst or officer only by its number, and by no other mark or designation. The result of the analysis or investigation shall thereupon, and within convenient time, be reported by the officer conducting the same to the secretary of said State Board of Health, setting forth explicitly the nature of any deleterious substance, compound or adulteration which may be detrimental to public health and which has been found upon analysis in such samples, and stating the number of the samples in which said substance was found. Upon such examination or analysis the brewer, distiller or vendor in whose sample of spirituous, fermented or malt liquor such deleterious substances, compounds or adulterations shall be found, shall be deemed to have violated the provisions of this act, and shall be punishable as prescribed in section seven of this act.

To satisfy these conditions bottles and cases were ordered specially marked with the State Board's imprint, and a cool cellar rented convenient to the chemist, where the beers could be kept at proper temperature awaiting analysis. Tags were also prepared (of which the following is a specimen), to be tied on the samples as they were collected:

No. The State Board of Health, Date, .
Sample of .
Purchased of ,
Brewed or distilled by .
Collector's name.

These tags were removed from the sample on its reaching the Central Office, and a label, with a certain number, of which the following is a sample, pasted on :

STATE BOARD OF HEALTH,
Chapter 176, 1885.
Secy's No, .

The samples as sent to the chemist were labeled with the above label and contained no other information than the secretary's number.

Located as the breweries are all over the State, it was necessary to have a special collector, a man of thorough integrity, who could give his whole attention to the work. Fortunately there was available at the time one who had been in the Board's service formerly, and an arrangement was made with him at the moderate rate of $2 a day and expenses, to make the collections for the entire State excepting in the cities of New York and Brooklyn where the breweries are so numerous and so close together, that it was thought hotel and traveling expenses might be saved by employing a person who had his home in one or other of these cities. Collecting was begun in the city of Albany on the 15th day of July, 1885, and continued with slight interruption till November 25, 1885.

An effort was made to take such sanitary observations as might be useful to the Board in making its recommendations, by thoroughly inspecting every brewery. The collections were necessarily retarded somewhat by this course, but the gain was more than compensatory in the information obtained.

The law requiring that each sample be marked by the secretary before forwarding it to the chemist for analysis, added to the expense of expressage, making in fact three expressages, one in shipping the empty case of bottles to the point where the collections were to be made, the second in forwarding them after the samples had been collected to the Central Office to have the tags removed and numbered labels pasted on, and the third, in the transfer of the samples properly marked to the chemist for analysis.

That no one could tamper with these each case was locked. The keys for the cases were made in triplicate, one being held by the collector, the second at the Central Office, and the third being in the possession of the chemist.

The law also requiring that the results of the analyses should be for the exclusive information of the Board, the returns from the analyst were kept under lock and key.

The following is a tabulation of all the analyses received from Dr. Englehardt. They are numbered consecutively, but the names of the brewers are withheld. His own report, which is separately given, will speak for itself. The beers were found to be heavily salted.

BEER ANALYSIS.

Number of sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter.	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
1 Ale	1021.70	3.748	7.262	0.2737	0.0595	88.990	None found	Apparently glucose	Ash was white, contained no excess of carbonates, beer, perhaps slightly salted.
2 Ale	1020.80	4.955	7.340	0.305	0.066	87.705	None found	Apparently glucose	Ash white, no excess of carbonates, beer has been salted.
3 Porter	1007.73	5.429	4 440	0.347	0.0708	90.131	None found	From low per ct. of phosphoric acid we conclude glucose	The ash was white, there were no carbonates in excess present, but unquestionably salt had been added to beer.
4 Weiss	1002.42	1.856	1.408	0.148	0.028	96.736	None	Apparently glucose; phosp'ric acid small amount	This sample of beer must be a kind of Weiss beer, both the alcohol and extract being too low for ale, porter or lager. Taste, sour and insipid. The ash was white (absence of iron), no excess of carbonates present, but salt has been added to the beer.
5 Lager	1014.96	3.861	5.644	0.2485	0.0915	90.495	None found	Questionable	Ash white, no excess of carbonates, no salt added.
6 Porter	1011.635	4.043	4.900	0.288	0.052	91.057	None found	Glucose very likely used	Ash white, no excess of carbonates, some salt, perhaps, added.
7 Ale	1012.86	4.833	5.511	0.320	0.092	89.656	None found	None apparently used	Ash white, no excess of carbonates present, salt has been added.
8 Ale	1019.04	3.866	6.716	0.244	0.0642	89.418	None found	Questionable	Ash white, no excess of carbonates, some salt added to the beer.
9 Porter	1012.429	5.145	5.544	0.278	0.071	89.311	None found	Questionable	Ash white, no excess of carbonates present, beer is salted.
10 Lager	1022.14	4.127	7.587	0.317	0.117	88.286	None found	Questionable	Ash white, no excess of carbonates nor salt present.
11 Ale	1021.676	5.093	7.743	0.319	0.0904	87.1640	None found	Questionable	Ash white, no carbonates present in excess, apparently some salt added.
12 Lager	1011.42	3.949	4.770	0.253	0.0833	91.281	None found	None	Ash white, no carbonates in excess, no salt added to the beer.
13 Ale	1018.89	4.144	6.790	0.271	0.082	89.066	None found	Glucose apparently	Ash white, no excess of carbonates present.
14 Ale	1003.26	6.125	3.560	0.346	0.100	90.315	None found	Questionable	Ash white, no excess of carbonates, no salt added to the beer.
15 Ale	1012.44	4.410	5.280	0.410	0.107	90.310	None found	None found	Ash white, no excess of carbonates, no salt added to the beer.
16 Ale	1009.20	7.176	5.560	0 420	0.113	86.844	None found	Glucose ap'ar'tly us'd	Ash white, no excess of carbonates present, beer is not salted.
17 Ale	1005.62	4.476	3.725	0.291	0.101	91.799	None found	Questionable	Ash was white, no excess of carbonates present, salt seems added.
18 Lager	1016.08	3 795	8.354	0.239	0.0755	90.351	None found	Apparently none us'd	Ash white, no carbonates in excess, nor salt.
19 Lager	1013.40	5.139	5.497	0.2339	0.080	89.364	None found	Questionable	Ash white, carbonate not excessively present, beer is not salted.
20 Ale	1020.54	4.245	7.439	0.285	0.1064	88.316	None	None	Ash white, carbonates not in excess, sulphates in strong traces, chlorine calculated as salt 0.0137 per cent.
21 Porter	1012.90	4.202	5.283	0.265	0.09079	90.515	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as common salt, 0.0184 per cent.
22 Porter	1016.77	1.304	6.274	0.3027	0.1066	89.422	None	None	Ash white, carbonates not in excess, sulphates in strong traces, chlorine calculated as salt, 0.0229.
23 Ale	1022.57	2.393	6.875	0.268	0.0924	90.732	None	None	Ash white no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0228.
24 Ale	1006.72	7.091	4.087	0.347	0.0995	88.822	None	None	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0418 per cent.
25 Porter	1024.11	5.744	7.951	0.266	0.07155	86.305	None	None	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0297 per cent.
26 Ale	1022.94	4.309	7.768	0.2827	0.08901	87.923	None	None	Ash of beer was white, containing no excess of carbonates, sulphates of lime in traces, chlorine calculated as salt, 0.01945 per cent.
27 Porter	1024.52	4.147	8.044	0.371	0.112	87.809	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0707 per cent.
28 Lager	1016.21	4.221	6.054	0.2200	0.08539	89.725	None	None	Ash of the beer was white, no excess of carbonates, no sulphates present, chlorine figured as salt, 0.0023 per cent.

BEER ANALYSIS — Continued.

Number of sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter.	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
29 Ale	1015.30	5.693	6.505	0.253	0.08057	87.802	None	None	Ash white, no excess of carbonates, sulphates very heavy traces, chlorine, when calculated as salt, 0.01838 per cent.
30 Porter	1016.81	3.298	5.851	0.258	0.0674	88.851	None	None	Ash white, no excess of carbonates, of sulphates very strong traces, chlorine calculated as salt, 0.0367 per cent.
31 Lager	1014.04	3.6370	5.3120	0.1847	0.08065	91.051	None	None	Ash white, no excess of carbonates, sulphates not present, chlorides calculated as salt, 0.0023.
32 Ale	1015.93	8.994	7.929	0.465	0.1156	83.077	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.08762 per cent.
33 Lager	1012.37	4.689	5.368	0.247	0.06830	89.943	None	None ?	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0208.
34 Weiss	1007.83	2.400	2.865	0.2517	0.0335	94.735	None	None ?	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.1350 constituting over one-half of the ash. Must be a Weiss beer.
35 Ale	1014.04	7.444	6.929	0.307	0.07907	85.627	None	Yes	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.06237.
36 Ale	1013.33	4.079	5.341	0.238	0.0748	90.580	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0300.
37 Porter	1020.42	3,333	6.779	0.3774	0.07957	89.888	None	Questionable ?	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.07957.
38 Ale	1018.67	3.868	6.571	0.2702	0.0792	89.561	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.03903 per cent.
39 Ale	1006.53	5.092	4.045	0.271	0.08503	90.863	None	None	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0185 per cent.
40 Ale	1013 34	4.653	5.588	0.231	0.06714	89.759	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.07167.
41 Ale	1002.38	5.739	3.199	0.3173	0.08388	91.062	None	None	Ash white, carbonates not in excess, sulphates in strong traces, chlorine calculated as salt, 0.01187.
42 Lager	1014.32	3.839	5.478	0.2384	0.08915	90.683	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.02097.
43 Lager	1015.83	3.504	5.696	0.270	0.08407	90.800	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.00345.
44 Porter	1008.92	6.625	5.282	0.3830	0.1487	88.093	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.02085 per cent.
45 Ale	1016.35	4.546	6.267	0.3161	0.1017	89.187	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0137.
46 Ale	1006.82	6.643	4.751	0.322	0.1042	88.615	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0395.
47 Ale	1008.48	6.5308	5.124	0.3816	0.1562 !	88.3452	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.03247.
48 Porter	1013.15	4.316	5.400	0.370	0.09094	90.284	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.09094 per cent.
49 Ale	1005.04	4.452	3.336	0.286	0.08747	92.212	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0680.
50 Lager	1023.68	3.618	7.665	0.259	0.07907	88.717	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0183.

51 Ale	1012.74	3.938	5.125	0.346	0.0661	90.937	None	Apparently	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.08579.
52 Lager	1021.71	5.109	7.830	0.347	0.104	87.061	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0227 per cent.
53 Lager	1011.97	3.866	4.907	0.361	0.08451	91.227	None	Questionable	Ash white, no excess of carbonates, sulphates giving heavy precipitates, chlorine calculated as salt, 0.0300.
54 Lager	1015.64	3.584	5.688	0.276	0.0907	90.728	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, equal to 0.01617 per cent.
55 Lager	1009.88	3.979	4.397	0.217	0.08452	91.624	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.00928 per cent.
56 Lager	1009.03	3.967	4.157	0.281	0.08127	91.876	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0185.
57 Lager	1012.42	4.845	5.443	0.306	0.1089	89.712	None	None	Ash white, no excess of carbonates, sulphates none, chlorides figured as salt, 0.0023 per cent.
58 Lager	1009.95	4.376	4.607	0.284	0.09001	91.017	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0162 per cent.
59 Lager	1012.26	3.423	4.803	0.272	0.08714	91.774	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0346 per cent.
60 Ale	1011.88	5.798	5.698	0.341	0.10188	88.504	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0115 per cent.
61 Ale	1009.63	7.537	5.699	0.294	0.08048	86.764	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.00923 per cent.
62 Lager	1019.44	4.798	7.207	0.328	0.05675	87.995	None	Yes	Ash white, no excess of carbonates, sulphates very heavy traces, the chlorine calculated as salt, equal to 0.0823 per cent.
63 Lager	1020.40	4.302	7.285	0.318	0.07193	88.413	None	None ?	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.05727 per cent.
64 Lager	1009.10	4.601	4.464	0.2747	0.10129	90.935	None	None ?	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0208 per cent.
65 Ale	1020.38	4.465	7.248	0.235	0.0744	88.287	None	Doubtful, am inclined to think substitutes have been used	Ash white, carbonates none in excess, sulphates very heavy indeed, chlorine calculated as salt, 0.059 per cent.
66 Ale	1006.36	5.460	4.140	0.318	0.1102	90.400	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0511 per cent.
67 Lager	1019.30	2.937	6.280	0.216	0.06548	90.7822	None	None	Ash white, no excess of carbonates, sulphates very heavy traces, chlorine calculated as salt, 0.0115 per cent.
68 Lager	1011.94	4.490	5.409	0.230	0.0700	90.101	None	None	Ash white, no excess of carbonates, sulphates in very heavy traces, chlorine calculated as salt, 0.01380.
69 Ale	1020.60	3.507	6.900	0.280	0.0869	89.593	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.057.
70 Ale	1017.04	4.370	6.352	0.287	0.0787	89.278	None	None	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.046
71 Ale	1020.02	4.160	6.789	0.361	0.0949	89.021	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0759.
72 Porter	1018.05	4.548	6.716	0.437	0.09516	88.736	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.08767.
73 Ale	1020.17	5.185	6.985	0.345	0.1144	87.830	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.039.
74 Weiss	1003.96	2.1122	1.9295 !	0.1390	0.03763	95.9583	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0465 per cent.
75 Weiss	1007.13	2.572	3.045	0.229	0.0632	94.383	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0394.
76 Weiss	1009.92	2.766	3.842	0.468	0.0398	93.392	None	None	Ash white, no excess of carbonates, sulphates faint traces, chlorine calculated as salt, 0.338 !!!
77 Weiss	1005.50	1.600	2.205	0.176	0.0304	96.195	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0862 per cent.
78 Ale	1004.19	5.792	3.696	0.319	0.1033	90.512	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0093 per cent.

BEER ANALYSIS — Continued.

Number sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
79 Porter .	1017.30	5.224	6.840	0.217	0.0825	87.936	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0023.
80 Ale	1020.72	4.622	7.399	0.270	0.0965	87.979	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0275 per cent.
81 Porter ..	1018.50	4.797	6.669	0.254	*0.1114	88.504	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.022.
82 Lager ..	1017.09	3.879	6.124	0.246	‡0.108	89.997	None	None	Ash white, no excess of carbonates, sulphates, faint trace, chlorine calculated as salt, 0.0069. A very fine sample of beer.
83 Lager...	1017.21	4.063	6.275	0.236	0.103	89.662	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.00115 per cent. Good beer.
84 Ale	1015.93	4.997	6 170	0.262	0.06729	88.833	None	Questionable ?..........	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.023 per cent.
85 Lager...	1015.43	4.515	5.993	0.3065	0.08353	89.492	None	None	Ash white, no excess cf carbonates, sulphates very strong, chlorine calculated as salt, 0.0344 per cent.
86 Ale	1019.27	3.922	6.769	0.245	0.0881	89.309	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0275 per cent.
87 Lager...	1013.57	3.844	5.285	0.286	0.0862	90.871	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0277 per cent.
88 Ale	1012.22	4,730	5.194	0.235	0.09335	90.079	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0092, sulphates in traces.
89 Porter .	1014.14	4.139	5.573	0.279	0.08169	90.288	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0438 per cent. Beer had a sour taste.
90 Ale	1015.03	4.964	6.115	0.215	0.06503	88.921	None	None	Ash white, no excess of carbonates, sulphate in strong traces, chlorine calculated as salt, 0.0115 per cent.
91 Porter ..	1021.32	4.150	7.371	0.274	0.0694	88.478	None	Qust'nable, phosp'ric acid too low..........	Ash white, no excess of carbonates, strong traces of sulphates, chlorine calculated as salt, 0.0160.
92 Ale	1012.74	2.431	4.401	0.305	‡0.1165	93.165	None	None	Ash white, carbonates not in excess, sulphates very strong traces, chlorine calculated as salt, 0.0553.
93 Porter ..	1013.53	3.562	5.164	0.284	0.0954	91.274	None	None	Ash white, no excess of carbonates, strong traces of sulphates, chlorine calculated as salt, 0.023 per cent.
94 Lager...	1021.07	3.260	6.913	0.267	0.1023	89.827	None	None	Ash white, no carbonates, no sulphates, chlorine in traces. Good sample of beer.
95 Weiss...	1005.61	0.790	1.836	0.195	0.0424	97.374	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine very heavy, calculated as salt, 0.1049 per cent! Very heavily salted.
96 Lager...	1018.47	3.752	6.227	0.277	0,08654	90.021	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine, calculated as salt, 0.0183 per cent.
97 Lager...	1018.24	3.195	6.162	0.254	0.08815	90.643	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0044 per cent.
98 Weiss...	1005.86	0.913	1.966	0.142	0.277	97.121	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0627 per cent. A kind of Weiss beer.
99 Weiss...	1005.04	1.424	1.973	0.1237	0.0353	96.603	None	None ?........................	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0582 per cent. A kind of Weiss beer.
100 Weiss...	1008.06	1.935	2.529	0.240	0.0355	96.534	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine heavy, equal to 0.141 per cent of salt. Kind of Weiss beer, sour taste.

101 Lager...	1023.36	2.373	7.064	0.222	0.08028	90.363	None	None	Ash white, no excess of carbonates, sulphates and chlorine in traces. Good sample of beer in appearance and taste, except slightly pitchy.
102 Lager...	1012.64	4.181	5.183	0.245	0.0855	90.636	None	None	Ash white, no excess of carbonates, no sulphates, chlorine in traces, taste somewhat pitchy.
103 Lager...	1022.92	3.681	7.308	0.227	0.0805	89.011	None	None	Ash white, no carbonates, no sulphates, chlorine trace, beer has a taste of pitch.
104 Lager....	1012.28	3.780	4.931	0.241	0.0966	91.286	None	None	Ash white, no excess of carbonates, no sulphates present, chlorine calculated as salt, 0.0046 per cent.
105 Lager...	1013.34	3.796	5.024	0.174	0.06935	91.180	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0023 per cent, tastes after pitch.
106 Lager....	1019.48	2.873	6.301	0.202	0.08409	90.826	None	None ?........................	Ash white, no excess of carbonates, sulphates none, chlorine calculated as salt, 0.0023 per cent.
107 Ale	1019.71	4.239	7.014	0.367	0.07620	88.747	None	Apparently................	Ash white, no excess of carbonates, sulphates very heavy, chlorine calculated as salt, 0.1263 per cent! very heavy salted beer.
108 Porter .	1017.07	3.857	6.157	0.222	0.0831	89.986	None	None	Ash white, carbonates not in excess, sulphates in very heavy traces, chlorine calculated as salt, 0.06901 per cent.
109 Ale	1026.50	3.7409	8.379	0.304	0.0802	87.8801	None	None	Ash white, no excess of carbonates, sulphates very heavy, chlorine calculated as salt, 0.0456.
110 Porter .	1025.98	4.318	8.506	0.2914	0.08875	87.176	None	None	Ash white, no excess of carbonates, sulphates in very heavy traces, chlorine calculated as salt, 0.03418 per cent.
111 Ale	1025.10	4.333	8.294	0.321	0.1047	87.373	None	None	Ash white, no excess of carbonates, strong traces of sulphates, chlorine calculated as salt, 0.0571 per cent.
112 Porter .	1007.02	5.123	4.373	0.348	0.1173	90.504	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0411 per cent.
113 Weiss...	1007.17	3.179	3.315	0.164	0.04916	93.506	None	None	Ash white, no excess of carbonates, sulphates absent, chlorine calculated as salt, 0.0023. Of this Weiss beer both bottles contained less than one quart, the beer seemed to have been very scarce indeed. Very slightly sour.
114 Weiss...	1005.77	2.281	2.513	0.104	0.06117	95.176 !	None	None	Ash white, no excess of carbonates, no sulphates, no chlorine. A poor sample of Weiss beer to say the best. Slightly sour.
115 Porter .	1012.93	4.379	5,377	0.272	0.09568	90.244	None	None	Ash white, no excess of carbonates, sulphates in very slight traces, chlorine calculated as salt, 0.045, beer was sour.
116 Ale	1014.80	2.848	5.166	0.309	0.1206 !	91.986	None	None ?........................	Ash white, carbonates not in excess, sulphates in strong traces, chlorine calculated as salt, 0.0336 per cent. Remarkably high percentage of phosphoric acid.
117 Lager...	1021.06	3.617	7.087	0.237	0.08559	89.296	None	None	Ash white, no excess of carbonate, sulphates in traces, chlorine calculated as salt, 0.0023 per cent.
118 Ale	1023.90	3.925	7.821	0.350	0.1114	88.251	None	None	Ash white, no excess of carbonates, sulphates very strong, chlorine calculated as salt, 0.0571 per cent.
119 Porter ..	1021.10	3.723	7.133	0.300	0.07417	89.144	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0481.
120 Ale	1018.36	5.500	7.225	0.293	0.08567	87.275	None	None	Ash white, no excess of carbonates, sulphates in slight traces, chlorine calculated as salt, 0.0503 per cent.
121 Porter ..	1028.27	1.671	7.834	0.432	0.0876	90.495	None	None	Ash white, no excess of carbonates, no sulphates present, chlorine calculated as salt, 0.1095 ! heavily salted.
122 Lager...	1019.80	4.010	6.938	0.196	0.09019	89.052	None	None ?........................	Ash white, no excess of carbonates, sulphates in slight traces, chlorine calculated as salt, 0.0023.
123 Ale	1015.89	4.991	6.348	0.349	0.0902	88.661	None	None	Ash white, no excess of carbonic acid, sulphates in strong traces, chlorine calculated as salt, 0.0831 per cent.
124 Porter .	1017.01	4.534	6.429	0.274	0.0886	89.037	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.046 per cent.
125 Ale	1005.45	6.175	4.140	0.331	0.1174	89.684	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0023 per cent, fine sample of beer, very slightly sour.
126 Porter .	1016.13	2.639	5.391	0.309	0.1113	91.970	None	None	Ash white, no excess of carbonates sulphates in traces, chlorine calculated as salt, 0.0092 per cent.
127 Lager...	1015.71	4.114	5.951	0.212	0.08817	89.035	None	None	Ash white, no excess of carbonates, no sulphates, chlorine a mere trace. A good beer.

* High for ash. † High. ‡ Very high.

BEER ANALYSIS — Continued.

Number of sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter.	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
128 Weiss...	1003.66	1.202	1.534	0.114	0.03055	97.264	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0093 per cent. A poor kind of Weiss beer.
129 Ale	1007.11	5.003	4.101	0.257	0.0666	89.896	None	None	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0511. Beer slightly sour.
130 Ale	1001.369	5.440	2.805	0.4072	0.0947	89.755	None	Questionable	Ash white, no excess of carbonates, sulphates in traces, salt calculated from chlorine found, 0.0854. Beer is salted.
131 Ale	1009.77	3.444	4.092	0.226	0.0542	92.464	None	Apparently..................	Ash white, no excess of carbonates, sulphates strong traces, chlorine as salt calculated, 0.1831, hence the beer is salted.
132 Lager...	1015.09	0.677	4.152	0.388	0.0584	95,171	None	Yes	Ash white, no excess of carbonates, sulphates strong traces, chlorine as salt calculated, 0.0323. Beer is sour.
133 Lager...	1011.20	3.436	4.472	0.313	0.0919	92.092	None	None?........................	Ash white, no excess of carbonates, no sulphates, chlorine as salt calculated, 0.0115.
134 Lager...	1009.18	3.958	4.175	0.2828	0.0619	91.867	None	Apparently..	Ash white, no excess of carbonates, sulphates in traces, chlorine as salt calculated, 0.0673.
135 Ale	1005 83	6.497	4.462	0.280	0.0815	89.041	None	None	Ash white, no excess of carbonates, sulphates present in traces, chlorine as salt calculated, 0.0116 per cent.
136 Ale	1007.26	5.627	4.315	0.307	0.0947	90.058	None	None	Ash white, no excess of carbonates, sulphates present in traces, chlorine calculated as salt, 0.0186.
137 Porter..	1006.52	5.760	4.282	0.283	0.1067	89.958	None	None	Ash white, no excess of carbonates or sulphates, chlorine calculated as salt, 0.0233. Beer is somewhat sour.
138 Lager...	1011.46	4.4904	5.0146	0.328	0.0557	90.495	None	Yes.	Ash white, no excess of carbonates, chlorides heavy, hence the beer is salted, sulphates strong traces.
139 Ale	1002.42	5.924	3.125	0.355	0.107	90.951	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.108, hence the beer is salted; taste sour.
140 Ale	1010.42	3.558	4.323	0.247	0.0439	92.119	None	Yes.....................	Ash is white, no excess of carbonates, sulphates strong traces, chlorides heavy, hence the beer must be salted. Beer is slightly sour.
141 Ale	1010.838	3.866	4.602	0.208	0.085	91.532	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0974, beer is therefore salted.
142 Ale	1006.49	4.309	3.652	0.324	0.1016	92.039	None	None	Ash white, no carbonates in excess present, beer has a good taste, not tested as yet for chlorides and sulphates.
143 Porter .	1013.62	5.792	6 122	0.4916	0.0988	88.086	None	Doubtful	Ash white, no excess of carbonates, chlorine, though not determined, very heavy, hence the beer is salted; ash is very high, sulphates heavy, has a slightly sour taste.
144 Ale	1013.77	3.8720	5.2748	0.306	0.06068	90.8532	None	Yes...........	Ash white, carbonates not in excess, taste not very good, chlorine calculated as salt, 0.113, hence the beer is salted.
145 Porter .	1011.25	3.838	4.672	0.234	0.080	91.490	None	None	Ash white, no excess of carbonates, the beer is slightly sour, chlorine calculated as salt, 0.013, probably some salt added.
146 Lager...	1008.42	4.334	4.143	0.292	0.0971	91.523	None	None	Ash white, no excess of carbonates, chlorides calculated as salt, 0.0046.
147 Ale	1004.73	6.770	4.190	0.284	0.0971	89.040	None	None	Ash white, no excess of carbonates, beer is slightly acid, chlorine as salt calculated, 0.0023, hence not salted.
148 Ale	1004.90	1.967	2.938	0.231	0 0714	95.095	None	None	Ash white, carbonates not in excess, chlorine as salt calculated, 0.0046. Too sour to drink.
149 Porter .	1013.52	4.125	5.405	0.302	0.0671	90.470	None	None, apparently......	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0786. Beer has a sour taste.
150 Ale	1017.90	4.176	6.549	0.329	0.0733	89.275	None	Apparently.................	Ash white, no excess of carbonates, sulphates and salt in traces.

151 Ale	1008.98	5.836	5.087	0.378	0.0733	89.077	None	Yes	Ash white, no excess of carbonates, but sulphates heavy, salt has been added.
152 Lager	1019.54	3.609	6.702	0.273	0.0991	89.689	None	None	Ash white, no excess of carbonates, salt must have been added, sulphates heavy.
153 Ale	1012.94	2.419	4.441	0.308	0.0905	93.140	None	Doubtful	Ash white, no excess of carbonates found, salt has been added to the beer, sulphates heavy.
154 Ale	1002.52	5.681	3.198	0.366	0.109	91.121	None	None	Ash white, no excess of carbonates found, beer appears salted, sulphates traces.
155 Weiss	1008.55	1.414	2.867	0.069	0.038	95.719	None	Apparently none.	Ash white, no carbonates present in excess, no salt added, must be a kind of Weiss beer.
156 Ale	1010.32	6.002	5.437	0.357	0.0714	88.561	None	Either grape sugar or glucose	Ash white, no excess of carbonates, appears to have received an addition of salt.
157 Lager	1014.56	3.632	5.430	0.230	0.0714	90.938	None	None	Ash white, carbonates not in excess, not salted.
158 Ale	1011.90	3.834	4.812	0.285	0.0771	91.354	None	None apparently	Ash white, no carbonates to excess, beer has been salted, beer somewhat sour.
159 Ale	1016.03	3.140	5.595	0.281	0.0666	91.265	None	Used to some extent	Ash white, carbonates not in excess, salt added.
160 Ale	1010.13	8,333	6.738	0.285	0.0771	84.929	None	Undoubtedly used	Ash white, no excess of carbonates, beer is salted. A very heavy and old ale.
161 Porter	1006.32	5.608	4.213	0.307	0.0976	90.179	None	None	Ash white, carbonates not in excess, no salt added.
162 Ale	1011.20	3.861	4.685	0.252	0.098	91.454	None	None	Ash white, carbonates not excessive, beer salted.
163 Malt wine	1010.53	4.758	4.918	0.298	0.0895	90.324	None	None	Ash white, no carbonates, beer is salted.
164 Ale	1008.08	6.476	4.981	0.424	0.117	88.541	None	None	Ash white, carbonates not excessive, apparently salted.
165 Porter	1015.39	5.289	6.348	0.507	0.171	88.363	None	None	Ash white, carbonates not excessive, salted apparently.
166 Ale	1020.58	3.873	7.081	0.362	0.0838	89.046	None	Apparently	Ash white, carbonates not to excess, beer is salted.
167 Ale	1021.41	5.249	7.862	0.329	0.096	86.889	None	None	Ash white, carbonates not excessive, free of salt.
168 Ale	1013.68	4.796	5.722	0.282	0.0719	90.482	None	Questionable	Ash white, carbonates not excessive, beer is apparently salted.
169 Ale	1001.42	7.494	3.620	0.352	0.100	88.886	None	None	Ash white, carbonates not excessive, salt is not apparently added; a very old beer.
170 Lager	1018.17	4.415	6.672	0.276	0.0838	88.913	None	None	Ash white, carbonates not excessive, no salt added.
171 Ale	1018.68	3.882	6.563	0.308	0.0405	89.555	None	Used	Ash white, no excess of carbonates, beer salted apparently.
172 Ale	1007.44	6.351	4.754	0.345	0.0623	88.895	None	Used	Ash white, carbonates not excessive, beer is salted.
173 Lager	1018.35	3.784	4.682	0.295	0.091	91.534	None	None	Ash white, neither carbonates nor salt present.
174 Lager	1018.60	3.065	6.131	0.237	0.088	90.804	None	None	Ash white, no salt used.
175 Lager	1013.22	2.682	4.663	0.263	0.050	92.655	None	Apparently	Ash white, carbonates not excessive, salted.
176 Ale	1001.90	6.710	3.421	0.339	0.112	89.867	None	None	Ash white, carbonates not excessive, salted.
177 Ale	1012.19	3.252	4.694	0.254	0.056	92.054	None	Some used apparently	Ash white, no carbonates, but salt used.
178 Ale	1013.44	4.183	5.446	0.298	0.0738	90.371	None	None apparently	Ash white, carbonates not excessive, salt seems to have been used.
179 Lager	1022.37	3.303	7.238	0.224	0.069	89.459	None	None	Ash white, no excess of carbonates, some salt used.
180 Lager	1013.58	3.998	5.371	0.243	0.08275	90.631	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.00693 per cent, sulphates in traces.
181 Ale	1018.33	5.786	7.3209	0.4053	0.1027	86.8931	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.1218! heavy salted, sulphates in heavy traces.
182 Porter	1008.45	5.651	4.757	0.5354	0.1420	89.592	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.1171! heavy salted, sulphates in strong traces, beer had a sour and musty taste, unfit to drink.
183 Ale	1007.67	5.734	4.592	0.3373	0.0960	89.674	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.06268 per cent, sulphates in strong traces.
184 Lager	1018.64	4.129	6.673	0.308	0.1000	89.198	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023 per cent, sulphates in slight traces.
185 Lager	1019.86	3.569	6.734	0.262	0.0989	89.697	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, sulphates none.
186 Lager	1015.48	3.130	6.245	0.231	0.942	90.625	None	None	Ash white, carbonates not in excess, chlorine calculated as salt, 0.0023, sulphates none.
187 Ale	1016.32	4.436	6.226	0.3659	0.1010	89.338	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0669, beer is salted, sulphates in traces.
188 Lager	1012.05	4.342	5.141	0.3059	0.08714	90.517	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0231 per cent, sulphates in traces.

BEER ANALYSIS — Continued.

Number of sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter.	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
189 Ale	1015.19	4.414	5.753	0.4035	0.1012	89.833	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.06017 per cent. sulphates in traces.
190 Ale	1010.97	4.993	5.118	0.363	0.08398	89.889	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0881, beer is salted.
191 Porter	1016.98	4.973	6.641	0.557 !	0.12767	88.383	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0992, heavily salted, sulphates strong traces, beer has a sour taste.
192 Ale	1007.93	4.842	4.255	0.311	0.0644	90.903	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0743, sulphates in traces.
193 Ale	1009.19	3.588	4.027	0.367	0.06202	92.385	None	Yes	Ash white, no excess of carbonates, chlorine calculated as salt, 0.079 per cent, sulphates in strong traces.
194 Lager	1013.11	2.205	4.884	0.243	0.0693	92.911	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0208, sulphates in traces.
195 Ale	1010.77	4.379	4.765	0.3224	0.0999	90.856	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0440, sulphates in traces.
196 Lager	1010.94	4.902	5.101	0.2398	0.0967	89.997	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, sulphates very faint traces.
197 Lager	1014.00	3.735	5.370	0.2247	0.0619	90.895	None	None?	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, sulphates in strong traces.
198 Lager	1014.88	1.392	4.470	0.2864	0.0903	94.138	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0184, sulphates in strong traces.
199 Lager	1012.73	6.614	6.226	0.2938	0.1052	87.160	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, per cent, sulphates none, a good sample of beer.
200 Lager	1017.50	3.842	6.311	0.2045	0.0777	89.847	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0069, sulphates in traces present.
201 Lager	1013.08	4.120	5.305	0.297	0.10426	90.575	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, per cent, sulphates a very faint trace.
202 Lager	1027.44	2.635	8.114	0.193	0.0824	89.221	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0068, sulphates in traces, a good sample of beer.
203 Lager	1019.06	3.370	6.432	0.2657	0.0966	90.198	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, sulphates absent, a good sample of beer.
204 Lager	1017.88	3.799	6.334	0.2808	0.1113	89.667	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0230, sulphates in traces, a sample of good beer.
205 Lager	1005.73	3.518	3.098	0.376	0.118	93.384	None	None	Ash white, no excess of carbonates or sulphates, but some chlorides.
206 Ale	1017.02	3.721	6.073	0.234	0.0581	90.203	None	To some extent	Ash white, carbonates not in excess, but sulphates and chlorides very strong traces indeed.
207 Porter	1033.63	3.731	11.783	0.386	0.0697 !	84.483	None	Yes	Ash white, no excess of carbonates, sulphates strong, chlorides very strong.
208 Ale	1010.04	3.564	4.120	0.294	0.0424 !	92.316	None	Yes	Ash white, carbonates none, sulphates strong traces, chlorides strong traces.
209 Ale	1024.76	3.725	7.923	0.327	0.0733	88.352	None	Yes	Ash white, no excess of carbonates, sulphates very strong traces, beer appears to be salted.
210 Ale	1005.12	5.894	3.960	0,2925	0.0617	90.146	None	Yes	Ash white, no excess of carbonates, sulphates strong traces, beer is salted and rather sour.
211 Ale	1024.63	3.617	7.854	0.332	0.0754	88.529	None	Some used apparently	Ash white, no excess of carbonates, sulphates very strong traces, chlorides heavy, beer is salted.

212 Ale	1020.54	3.892	7.056	0.298	0.0654	89.0520	None	None	Ash white, no carbonates, sulphates traces, chlorine as salt calculated, 0.135 per cent, beer heavily salted.
213 Lager	1014.33	4.050	5.563	0.244	0.0775	90.387	None	None	Ash white, carbonates not in excess, sulphates very faint traces, chlorides calculated as salt, 0.00925, very fine beer.
214 Lager	1014.07	4.114	5.529	0.225	0.0658	90.357	None	None apparently	Ash white, no excess of carbonates, sulphates slight traces, salt calculated from chlorine found 0.03 per cent, a very fine sample of beer.
215 Ale	1017.41	3.632	6.145	0.303	0.0845	90.223	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine as salt calculated, 0.0784, beer is slightly salted.
216 Porter	1010.65	5.406	5.239	0.391	0.1223	89.355	None	None	Ash white, no excess of carbonates, sulphates slight traces, chlorine as salt calculated, 0.0255.
217 Ale	1007.39	5.017	4.187	0.386	0.109	90.796	None	None	Ash white, no excess of carbonates, sulphates traces, chlorine as salt calculated, 0.1093, beer is salted, taste somewhat sour.
218 Ale	1009.91	3.784	4.284	0.278	0.0538	91.932	None	Yes	Ash white, carbonates not in excess, sulphates very strong traces, beer is salted. The beer was in my opinion unfit to drink.
219 Lager	1015.11	3.351	5.454	0.261	0.0765	91.195	None	None	Ash white, no excess of carbonates, sulphates very heavy traces, beer is salted.
220 Ale	1027.05	3.059	8.153	0.321	0.0477!	88.788	None	To a great extent	Ash white, no excess of carbonates, sulphates in strong traces, chlorides heavy.
221 Ale	1005.75	5.557	3.990	0.400	0.1195	88.453	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine as salt calculated, 0.0221, beer is slightly sour.
222 Ale	1015.27	4.868	5.885	0.302	0.099	89.247	None	None	Ash white, no excess of carbonates, sulphates strong traces, chlorine as salt calculated, 0.0414.
223 Porter	1010.85	5.962	5.509	0.311	0.138	88.529	None	None	Ash white, no excess of carbonates, sulphates present in strong traces, chlorine calculated as salt, 0.0603. Beer too sour for my taste. This beer has a remarkable amount of phosphoric acid as compared to the ash, it seems almost as if the phosphoric acid has been added. Will be examined again carefully in this regard.
224 Porter	1023.45	4.313	7.869	0.359	0.0833	87.818	None	Used to some extent, apparently	Ash white, carbonates not in excess, sulphates present in very strong traces, chlorine calculated as salt 0.0662, beer has a sour taste.
225 Ale	1033.75	2.409	9.501	9.4229	0.0687	88.030	None	Yes	Ash white, no excess of carbonates, very strong traces of sulphates, chlorine as salt calculated, 0.0749. A young beer.
226 Ale	1033.54	2.427	9.456	0.328	0.0729	88.117	None	None	Ash white, no carbonates in excess, sulphates in very strong traces, chlorine as salt calculated, 0.1180, beer is salted. A very young beer.
227 Ale	1012.63	3.312	4.811	0.226	0.0541	91.877	None	To some extent	Ash white, carbonates not in excess, sulphates present in strong traces, chlorine calculated as salt, 0.01157, a fair sample.
228 Lager	1014.27	3.241	5.192	0.249	0.0822	91.567	None	None	Ash white, no carbonates in excess, sulphates strong traces, chlorine calculated as salt. 0.0161. Beer was slightly sour.
229 Lager	1012.89	3.707	5.061	0.2533	0.0738	91.232	None	If, to a very small extent	Ash is white, carbonates none in excess, of sulphates strong traces, chlorine calculated as salt, 0.0127.
230 Porter	1010.08	4.381	4.590	0.3439	0.0928	91.029	None found.	Apparently none used	Ash white, no carbonates to excess, beer is salted, taste strong sour.
231 Lager	1015.39	3.795	5.684	0.2602	0 0760	90.521	None found.	None found	Ash white, no excess of carbonates or salt.
232 Ale	1003.11	6.546	3.705	0.347	0.097	89.749	None found.	Questionable	Ash white, no carbonates to excess, beer is salted.
233 Ale	1011.98	5.631	5.667	0.283	0.0809	88.702	None found.	None	Ash white, no carbonates present in excess, but the beer is salted.
234 Ale	1016.65	4 195	6.175	0.281	0.0714	89.630	None found.	None apparently	Ash white, no carbonates in excess, but salt seems to have been added.
235 Ale	1006.89	3.979	3.588	0.2498	0.0666	92.433	None found.	Questionable	Ash white, no carbonates in excess, beer is salted.
236 Ale	1013.00	3.170	4.844	0.2823	0.0738	91.986	None	Questionable	Ash white, no carbonates present, beer is salted.
237 Ale	1019.03	3.213	6.292	0.311	0.0666	90.495	None	Very likely	Ash white, carbonates not in excess, salt added apparently.
237 Ale	1018.63	3.211	6.193	0.263	0.0576	90.596	....	....	By mistake I opened the other bottle and made the second analysis, not knowing that one had been made some weeks previous.
238 Lager	1024.81	3.124	7.695	0.268	0.0866	89.181	None	None	Ash white, no carbonates in excess, no salt added.
239 Lager	1013.71	3.918	5.332	0.271	0.096	90.750	None	None	Ash white, carbonates not in excess, apparently not salted.
240 Lager	1012.98	3.932	5.179	0.251	0.104	90.889	None	None	Ash white, carbonates not in excess, no salt added.
241 Ale	1014.70	4.345	5.785	0.311	0.0817	89.870	None	None	Ash white, carbonates none in excess, beer appears to be salted.
242 Ale	1014.70	5.427	6.213	0.367	0.0756	88.360	None	Apparently used	Ash white, no excess of carbonates, beer is salted.
243 Ale	1008.76	4.820	4.467	0.293	0.0952	90.713	None	None	Ash white, no excess of carbonates, beer is salted apparently.
244 Ale	1010.19	4.775	5.149	0.309	0.106	90.076	None	None	Ash white, carbonates not in excess, beer is salted.
245 Porter	1014.88	4.927	6.051	0.316	0.0995	89.022	None	None	Ash white, carbonates not in excess, beer is salted.

BEER ANALYSIS — Continued.

Number of sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter.	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
246 Ale	1020.13	2.864	6.430	0.199	0.073	90.706	None	Questionable	Ash white, no excess of carbonates, beer is salted; a young beer, ash rather small in quantity but phosphoric acid corresponding to ash, the use of a malt substitute most likely.
247 Porter ..	1007.70	5.076	4.275	0.256	0.105	90.649	None	None	Ash white, no excess of carbonates, beer is not salted.
248 Ale	999.44	5.814	2.462	0.239	0.080	91.721	None	Apparently none	Ash white, no excess of carbonates, salt added to the beer; beer was very sour, must be very old or has suffered since leaving the brewery.
249 Ale	1013.56	4.267	5.510	0.235	0.0577	90.223	None	Apparently used	Ash white, no excess of carbonates, beer is salted.
250 Lager...	1016.54	3.965	6,032	0.234	0.0613	90.003	None	None	Ash white, no excess of carbonates, no salt used in this beer.
251 Lager...	1015.72	4.094	4.929	0.221	0.108	90.977	None	None	Ash white, no excess of carbonates, no salt present in the beer.
252 Ale	1010.97	3.061	4.231	0.259	0.046	92.708	None	Most likely...................	Ash white, no excess of carbonates, beer is salted, beer, when examined, was not good, being strongly acid.
253 Lager. .	1014.02	4.515	5.658	0.281	0.114	89.827	None	None	Ash white, no excess of carbonates and no salt present.
254 Ale	1014.70	3.536	5.417	0.212	0.0711	91.047	None	None	Ash white, no excess of carbonates, not salted.
255 Ale	1014.28	3.489	5.358	0.212	0.068	91.153	None	None	Ash white, no excess of carbonates, no salt added.
256 Ale	1009.62	4.499	4.554	0.305	0.0777	90.947	None	Questionable..............	Ash white, no excess of carbonates, beer is salted.
257 Porter ..	1012.47	4.716	5.439	0.405	0.0614	89.845	None	Yes, apparently	Ash white, no excess of carbonates, beer is salted.
258 Ale	1015.29	4.438	5.948	0.329	0.0933	89.614	None	None	Ash white, carbonates not in excess, beer is salted.
259 Ale	1016.93	6.308	4.325	0.291	0.091	89.367	None	None	Ash white, no excess of carbonates, beer is salted.
260 Ale	1006.85	6.103	4.499	0.383	0.0737	89.498	None	Apparently used.........	Ash white, no excess of carbonates, but salt used.
261 Lager. .	1018.25	3.748	6.412	0.304	0.1054	89.840	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0115 per cent.
262 Lager...	1016.89	4.597	6.443	0.3096	0.1019	88.960	None	None	Ash white, no excess of carbonates, sulphates none, chlorine calculated as salt, 0.023 per cent. A very good beer.
263 Lager...	1013.54	3.634	5.231	0.2749	0.1026	91.135	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0278. A good sample of beer.
264 Lager...	1024.14	2.633	7.376	0.285	0.08818	89.991	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0183 per cent.
265 Lager...	1019.64	2.861	6.340	0.2593	0.0757	90.799	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0229. A very good sample of beer.
266 Lager...	1020.68	3.005	6.786	0,224	0.0842	90.209	None	None	Ash white, carbonates not in excess, sulphates in traces, chlorine calculated as salt, 0.0091. A good sample of beer.
267 Ale	1003.46	5.057	3.181	0.335	0.08133	91.762	None	Apparently..................	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0350 per cent. Beer sour, unfit to drink.
268 Ale	1016.25	3.557	5.825	0.3023	0.112	90.618	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0253 per cent.
269 Porter ..	1024.36	3.583	7.771	0.3303	0.1134	88.646	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.03893 per cent.
270 Lager...	1012.50	4.211	5.197	0.312	0.1107	90.592	None	None	Ash white, no excess of carbonates, sulphates traces, chlorine calculated as salt, 0.0185 per cent.
271 Lager...	1020.64	1.260	5.911	0.308	0.111	92.829	None	None	Ash white, no excess of carbonates, sulphates, traces, chlorine calculated as salt, 0.0184. Although a young and light beer it was a good sample.
272 Lager...	1010.03	3.730	4.315	0.266	0.0893	91.955	None	None	Ash white, no excess of carbonates, sulphates some traces, chlorine calculated as salt, 0.03249 per cent. Taste good, a very good sample.
273 Lager...	1024.72	2 745	7.536	0.337	0.08423	89.719	None	None ?.......................	Ash white, no excess of carbonates, sulphates heavy traces, chlorine calculated as salt, 0.04566 per cent.

274 Lager	1017.64	3.346	6.077	0.265	0.0966	90.577	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0160 per cent, fair sample of beer.
275 Lager	1008.77	3.586	3.918	0.2638	0.06572	92.496	None	Questionable	Ash white, no excess of carbonates, sulphates in strong traces, chlorine as salt, 0.01857 per cent, beer had a sour taste.
276 Lager	1013.20	4.006	5.277	0.2662	0.07993	90.717	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0115 per cent.
277 Porter	1018.84	4.780	7.136	0.4401	0.0983	88.084	None	Yes	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0392.
278 Ale	1018.00	4.188	6.537	0.3702	0.0806	89.275	None	Yes	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0459.
279 Ale	1005.11	5.316	3.727	0.314	0.06957	90.957	None	Yes	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0328 per cent, sour very decidedly in taste.
280 Ale	1012.13	4.840	5.368	0.3351	0.07598	89.792	None	Apparently	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt. 0.06487, taste slightly sour.
281 Porter	1009.47	4.888	4.687	0.407	0.05989	90.425	None	Yes	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.09523 per cent, decidely sour taste.
282 Ale	1017.51	3.069	5.919	0.272	0.0760	91.012	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0506 per cent.
283 Porter	1019.32	2.995	6.321	0.345	0.06559	90.684	None	Apparently used	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0943 per cent.
284 Ale	1018.54	5.067	4.769	0.403	0.07856	90.164	None	None	Ash white, carbonates not in excess, sulphates very strong traces, chlorine caldulated as salt. 0.1554 per cent, taste slightly sour.
285 Lager	1010.53	4.386	4.745	0.298	0.08356	90.869	None	None	Ash white, no excess of carbonates, sulphates very strong traces indeed, chlorine calculated as salt, 0.03243 per cent.
286 Ale	1008.29	4.938	6.216	0.3116	0.1177	88.846	None	None	Ash white, no excess of carbonates, no salt used.
287 Lager	1008.31	3.971	4.015	0.251	0.076	92.014	None	None	Ash white, no excess of carbonates but beer is salted.
288 Ale	1008.78	3.118	3.701	0.272	0.0785	93.181	None	Doubtful	Ash of the beer white, carbonates not in excess, no salt used.
289 Lager	1037.00	0.9625	9.6470	0.2872	0.0933	89.4905	None	None	Ash white, no excess of carbonates, sulphate traces, salt calculated from chlorine 0.0022 per cent, beer not salted, a very young beer, unfit to drink in the state it was in when opening the bottle.
290 Lager	1010.22	3.331	4.165	0.278	0.101	92.504	None	None	Ash white, no carbonates used, sulphates in traces, chlorine calculated as salt, 0.0067.
291 Ale	1006.52	4.904	3.898	0.353	0.0723	91.198	None	Apparently	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0907, beer is salted.
292 Ale	1002.98	4.265	2.703	0.3108	0.0904	93.032	None	None	Ash white, no excess of carbonate, traces of sulphates, chorine found corresponding to 0.0233 per cent, beer is salted apparently.
293 Porter	1011.639	3.719	4.733	0.355	0.0905	91.548	None	None	Ash white, no excess of carbonates, sulphates in strong traces, beer is salted, chlorine calculated as salt, 0.106 per cent.
294 Ale	1009.08	3.791	4.085	0.244	0.0709	92.124	None	None	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.086, beer is salted.
295 Ale	1010.98	4.562	4.647	0.228	0.0509	90.791	None	Apparently	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.044, beer is salted.
296 Ale	1012.98	3.821	5.141	0.209	0.0566	91.038	None	Questionable	Ash white, no excess of carbonates, sulphates strong traces, chlorine as salt, 0.037, beer is salted.
297 Ale	1004.35	5.401	3.565	0.552	0.0661	91.0310	None	Not very doubtful	Ash white, no excess of carbonates, sulphates very heavy, very heavily salted, the chlorine found corresponds to 0.338 per cent, shall repeat tests
298 Ale	1011.55	3.640	4.927	0.302	0.0747	91.433	None	None	Ash white, no excess of carbonates, sulphates heavy, chlorine as salt calculated 0.0673 per cent, beer is salted.
299 Ale	1009.86	4.565	4.648	0.298	0.0628	90.787	None	Apparently	Ash white, no excess of carbonates, sulphates heavy, chlorine calculated as salt, 0.0245 per cent, beer is salted or the water used contained much chlorine.
300 Porter	1010.32	3.894	4.459	0.343	0.0806	91.647	None	None apparently	Ash white, no excess of carbonates, sulphates heavy, beer is salted.
301 Ale	1007.05	4.597	3.880	0.374	0.0643	91.523	None	Apparently (phosphoric acid too low for ash.)	Ash white, no excess of carbonates, sulphates heavy, beer is salted.
302 Ale	1010.45	4.011	4.538	0.3036	0.0581	91.451	None	Yes, the phosphoric acid is much too low for ash	Ash white, no excess of carbonates, sulphates very strong traces, beer is salted.

BEER ANALYSIS — Continued.

Number of sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter.	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
303 Ale	1012.239	4.355	5.173	0.311	0.0705	90.472	None	Apparently used.......	Ash white, no excess of carbonates, sulphates heavy, beer is salted.
304 Lager...	1019.42	3.436	6.563	0.247	0.0977	90.001	None	None	Ash white, no excess of carbonates, sulphates or chlorides, not salted.
305 Lager ...	1018.20	3.387	6.270	0.2409	0.0805	90.343	None	None	Ash white, no excess of carbonates, chlorine in strong traces, the same holds good in regard to sulphates.
306 Ale	1013.469	3.366	5.065	0.228	0.0621	91.569	None	Questionable	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0323 per cent.
307 Ale	1010.87	3.491	4.403	0.241	0.0475	92.106	None	Apparently used.......	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0416 per cent, beer is salted.
308 Ale	1004.37	4.431	3.146	0.339	0.0797	92.423	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine found corresponds to salt, 0.0838, beer is salted.
309 Porter .	1012.80	4.419	5.338	0.332	0.0847	90.243	None	None apparently.......	Ash white, no excess of carbonates, chlorine found calculated as salt, 0.0694 per cent, beer slightly sour, salted, sulphates in traces.
310 Ale	1010.39	5.889	5.363	0.2219	0.0457	88.748	None	Unquestionably ash too low for extract and alcohol..............	Ash white, no carbonates in excess, salt calculated from chlorine found, 0.0556 per cent, sulphates in traces.
311 Porter ..	1011.57	4.5103	5.1103	0.170	0.0815	90.3794	None	None	Ash white, no excess of carbonates, sulphates absent, salt only in traces.
312 Lager....	1022.53	3.638	7.413	0.2521	0.0997	88.949	None	None	Ash white, no excess of carbonates, no sulphates present, chlorine calculated as salt, 0.0045 per cent.
313 Weiss...	1012.05	1.265	3.692	0.315	0.0659	95.043	None	None	Ash white, no excess of carbonates, heavy traces of sulphates, chlorine calculated as salt, 0.0554 per cent, a kind of Weiss beer, slightly sour.
314 Weiss...	1003.40	2.004	1.799	0.0976	0.03317	96.197	None	None	Ash white, no excess of carbonates, sulphates in traces, salt none, a kind of Weiss beer, beer is somewhat sour.
315 Weiss...	1003.54	3.002	2.311	0,129	0.0421	94.687	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0023, a kind of Weiss beer.
316 Lager....	1011.77	3.553	4.659	0.274	0.097	91.788	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0092.
317 Lager....	1016.85	5.728	6.955	0.216	0.0859	87.317	None	None	Ash white, no excess of carbonates, sulphates in very slight traces, chlorine faint trace.
318 Lager....	1014.26	4.119	5.605	0.262	0.0950	90.276	None	None	Ash white, no excess of carbonates, sulphates in very faint traces, chlorine calculated as salt, 0.0046.
319 Ale	1024.14	3.147	7.569	0.297	0.0922	89.284	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0256 per cent.
320 Porter ..	1026.04	3.890	8.340	0.325	0.08306	87.770	None	None ?.........	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.045 per cent.
321 Lager. ..	1012.83	4.069	4.935	0.209	0.08139	90.996	None	None	Ash white, no excess of carbonates, no sulphates present, salt in traces, somewhat pitchy taste.
322 Lager....	1014.65	3.505	5.479	0.233	0.08616	91.016	None	None	Ash white, carbonates not in excess, sulphates in strong traces, chlorine calculated as salt, 0.0254 per cent.
323 Lager...	1018.81	3,828	6.584	0.216	0.0926	89.588	None	None	Ash white, no excess of carbonates, no sulphates, salt in traces, 0.0023 per cent, beer has a somewhat pitchy taste, otherwise very good.
324 Lager...	1016.55	4.040	5.864	0.214	0.0869	90.096	None	None	Ash white, no excess of carbonates, no sulphates present, chlorine calculated as salt, 0.0023 per cent.
325 Lager...	1018.19	4.446	6.737	0.1987	0.0912	88.817	None	None	Ash white, no excess of carbonates, sulphates, none present, chlorine a trace. A fine sample of beer.

326 Porter ..	1004.99	3.365	2.843	0.2959	0.1155	93.792	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0046 per cent, sulphates strong traces.
327 Ale	1016.44	5.471	6.724	0.286	0.1153	87.805	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0046 per cent, sulphates in traces.
328 Ale	1003.97	6.135	3.777	0.263	0.116	90.088	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.035 per cent, traces of sulphates
329 Porter ..	1018.92	3.781	6.606	0.2925	0.0822	89.613	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0391 per cent, sulphates in strong traces.
330 Ale	1018.17	4.437	6.711	0.298	0.1016	88.852	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0368 per cent, of sulphates strong traces.
331 Porter ..	1018.92	2.782	6.142	0.452	0.0816	91.076	None	None ?.........................	Ash white, no excess of carbonates, chlorides determined as salt, 0.1314 per cent, heavily salted beer, sulphates very strong traces
332 Ale	1022.02	2.700	6.878	0.2393	0.07165	90.422	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0228 per cent, sulphates strong traces,
333 Porter .	1022.62	3.993	7.479	0.307	0.118	88.528	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.064, strong traces of sulphates.
334 Lager...	1022.55	3.934	7.469	0.2173	0.090	88.597	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0343 per cent, sulphates in traces. Fine sample of beer.
335 Lager....	1017.55	3.845	6.259	0.248	0.1149	89.896	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023 per cent, sulphates none. Very fine sample, has a slightly pitch taste.
336 Ale	1014.88	6.439	6.721	0.3197	0.1285	86.840	None	None	Ash white, no excess of carbonates, chlorides calculated as salt, 0.0023, sulphates not present.
337 Lager....	1018.96	3.280	6.385	0.282	0.0999	90.335	None	None	Ash white, no excess of carbonates, chlorine as salt calculated, 0.0023 per cent, sulphates none. Taste somewhat pitchy.
338 Lager....	1018.17	3.685	6.346	0.2407	0.0907	89.969	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0091, sulphates not present. Fine sample of beer.
339 Lager...	1022.27	3.190	7.243	0.215	0.0887	89.567	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023 per cent, no sulphates present.
340 Lager...	1017.68	3.897	6.322	0.249	0.0737	89.781	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, no sulphates present. Fine sample of beer.
341 Lager....	1018.03	2.359	6.196	0.2252	0.0971	92.445	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023 per cent, sulphates none. Fine sample, taste somewhat pitchy.
342 Lager....	1015.64	4.077	5.891	0.1856	0.0836	90.0032	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, sulphates none. Fine sample of beer.
343 Weiss...	1005.70	0.889	2.767	0.115	0.0413	96.344	None	None	Ash white, no excess of carbonates, chlorides calculated as salt, 0.037, sulphates in traces. Is a kind of Weiss beer.
344 Lager...	1020.43	3.564	6.876	0.213	0.0835	89.560	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, no sulphates. Good sample of beer.
345 Lager...	1017.53	4.181	6.467	0.250	0.1012	89.352	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0115, sulphates in very strong traces.
346 Lager...	1014.56	3.617	5.444	0.1831	0.0751	90.939	None	None	Ash white, no carbonates in excess, chlorine calculated as salt, 0.0023 sulphates none.
347 Lager...	1019.58	3.382	6.577	0.2809	0.1117	90.041	None	None	Ash white, no excess of carbonates chlorine only a trace, no sulphates.
348 Weiss...	1005.88	1.611	2.262	0.263	0.0476	96.127	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.1676 per cent, beer heavily salted. A kind of Weiss beer.
349 Weiss...	1005.65	1.926	2.341	0.161	0.0746	95.733	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0325, sulphates in traces. A kind of Weiss beer.
350 Ale	1010.18	4.125	4.534	0.227	0.0696	91.341	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0116, sulphates present in strong traces.
351 Lager...	1016.94	4.147	6.242	0.412	0.0853	89.611	None	Yes	Ash of the beer white, no excess of carbonates, sulphates a very considerable quantity, chlorine calculated as salt, 0.0156 per cent.
352 Ale	1009.63	5.579	5.051	0.357	0.09381	89.370	None	None	A good tasting beer. Ash white, no excess of carbonates, sulphates considerable, chlorine calculated as salt, 0.0785 per cent.
353 Ale	1015.56	4.205	5.894	0.3621	0.0840	89.901	None	Questionable	Ash white, no excess of carbonates, sulphates very considerable, chlorine calculated as salt, 0.0575 per cent.
354 Ale	1015.42	3.954	5.757	0.3451	0.0826	90.289	None	None	Ash white, no excess of carbonates, sulphates in considerable quantity, chlorine as salt calculated, 0.0576.
355 Porter ..	1008.94	5.657	4.885	0.470	0.1140	89.458	None	None	Ash white, no excess of carbonates, sulphates considerable, chlorine calculated as salt, 0.0789 per cent.

BEER ANALYSIS — Continued.

Number of sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
356 Lager...	1022.25	3.474	7.325	0.2016	0.08116	89.101	None	None? May be so-called rice beer	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.0114. An excellent beer in appearance and taste.
357 Porter.	1015.46	4.524	6.039	0.313	0.0828	89.437	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0368.
358 Lager...	1016.09	5.582	6.661	0.2383	0.06266	87.757	None	Yes	Ash and phosphoric acid in too small quantities as compared to alcohol and extract. Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0115.
359 Ale	1015.31	4.019	5.829	0.3144	0.09264	90.152	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt,0 0184 per cent.
360 Weiss...	1012.74	1.943	4.143	0.340	0.03057	93.914	None	Questionable	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.226, heavily salted. Kind of small or Weiss.
361 Lager ..	1010.14	4.369	4.609	0.2351	0.0598	91.022	None	Questionable	Ash white, no excess of carbonates, sulphates a considerable quantity, salt calculated from chlorine, 0.0046.
362 Ale	1019.16	2,708	6.102	0.2832	0.0805	91.190	None	None	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.0805. A very young beer.
363 Lager...	1019.31	3.376	6.493	0.354	0.0678	90.131	None	Yes?	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.0734.
364 Ale	1007.52	3.288	3.455	0.223	0.0662	93.257	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.06051 per cent.
365 Ale	1009.06	3.381	3.918	0.1991	0.0690	92.701	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0533.
366 Ale	1011.88	3.588	4.715	0.2022	0.06067	91.697	None	None	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.0370 per cent.
367 Lager...	1007.11	3.956	3.655	0.1994	0.0669	92.380	None	None	Ash white, no excess of carbonates, sulphates considerable traces, chlorine calculated as salt, 0.0325.
368 Lager...	1007.09	4.240	3.753	0.1740	0.069	92.007	None	None	Ash white, no excess of carbonates, sulphates none but a mere trace, chlorine calculated as salt, 0.0069.
369 Ale	1013.62	3.523	5.172	0.1976	0.06069	91.305	None	None	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0 0185.
370 Ale	1009.52	7.679 !	5.829	0.2629	0.0805	86.492	None	None?........................	Ash white, no excess of carbonates, sulphates very considerable, chlorine calculated as salt, 0.0232. Beer is slightly sour.
371 Ale	1014.27	3.865	5.478	0.2132	0.0573	90.657	None	None apparently........	Ash white, no excess of carbonates, sulphates strong traces, chlorine as salt calculated, 0.0103.
372 Lager...	1015.36	1.583	4.686	0.3438	0.0887	93.731	None	None	Ash white, no excess of carbonates, sulphates in considerable quantities, chlorine calculated as salt, 0.0415. Apparently Weiss or light and young.
373 Ale	1009.51	3.9705	4.2878	0.2281	0.0660	91.7417	None	None	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.0116.
374 Ale	1007.72	5.4102	4.456	0.3257	0.0932	90.134	None	None	Ash white, no carbonates, no sulphates, chlorine calcu'ted as salt, 0.0442.
375 Ale	1006.10	3.083	2.998	0.471	0.097	93.919	None	Yes.....................	Remarkable for large amount of ash and phosphoric acid in comparison to alcohol and extract, one bottle entirely spoiled, beer in other rather sour. Ash white, no excess of carbonates, sulphates very considerable quantity, salt calculated from chlorine found, 0.056.
376 Ale	1016.149	4.169	6.065	0.374	0.0762	89.766	None	Apparently.................	Ash white, no excess of carbonates, sulphates considerable quantity, salt calculated from chlorine found, 0.0668.

377 Porter .	1006.23	4.537	3.688	0.460	0.09582	91.775	None	Yes..............................	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0672, sulphates considerable. Beer is sour.
378 Ale	1005.38	4.381	3.399	0.5179	0.10077	92.220	None	Yes.	Ash white, no excess of carbonates, chlorides calculated as salt, 0.0839 per cent, sulphates very strong traces indeed, a very light beer for porter. Taste sour.
379 Lager...	1022.20	2.934	7.082	0.372	0.0533	89.984	None	Yes..............................	Ash white, no excess of carbonates, chlorine calculated as salt, 0.03437, sulphates very strong traces indeed.
380 Ale	1010.39	4.344	4.685	0.394	0.07305	90.871	None	Yes.	Ash white, no excess of carbonates, chlorine as salt calculated, 0.06264, sulphates very heavy traces indeed.
381 Lager....	1011.28	4.402	4.957	0.2294	0.07143	90.641	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.00493, sulphates none.
382 Porter ..	1011.90	6.695	6.044	0.426	0.1085	87.261	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.07646 per cent, sulphates in very strong traces.
383 Ale	1019.96	5.111	7.442	0.309	0.05476	87.447	None	Yes..............................	Ash and phosphoric acid in too small quantities as compared with extract and alcohol. Ash white, no excess of carbonates, chlorine calculated as salt, 0.05476, sulphates strong traces,
384 Ale	1013.81	2.963	4.986	0.278	0.0596	92.051	None	None ?.........................	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0889.
385 Lager....	1007.99	5.026	4.350	0.282	0.09829	90.624	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0023, sulphates none.
386 Lager...	1019.76	3.721	6.795	0.2304	0.06731	89.484	None	Questionable	Ash white, no excess of carbonates, chlorides calculated as salt, 0.00229, sulphates strong traces.
387 Ale	1011.29	4.367	4.899	0.2699	0.0867	90.734	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.05553 per cent, sulphates strong traces.
388 Porter .	1006.89	4.924	4.021	0.3081	0.1028	91.055	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.02791, very strong traces of sulphates. Too sour and mouldy to be drunk.
389 Ale	1008.99	8.193	5.894	0.303	0.07714	85.913	None	Yes..............................	Ash much less than the alcohol and extract would allow us to suppose, same in regard to phosphoric acid. Ash white, no excess of carbonates, chlorine calculated as salt, 0.0438, sulphates consid'able quantity
390 Lager....	1013.98	3.910	5.443	0.2389	....	90.647	None	Doubtful	Ash white, no excess of carbonates, chlorine calculated as salt, 0.01848, traces of sulphates.
391 Ale	1004.74	5.761	3.823	0.3475	0.0887	90.416	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.07224, sulphates present in very strong traces.
392 Porter .	1011.99	4.423	5.160	0.3967	0.1163	90.417	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0716, sulphates very strong traces, taste of beer rather sour.
393 Ale	1011.00	5.542	5.385	0.3397	0.09524	89.073	None	None	Ash white, carbonates not in excess, chlorine calculated as salt, 0.0579, sulphates in strong traces.
394 Ale	1016.32	4.725	6.141	0.3883	0.1031	89.134	None	None	Ash white, no excess of carbonates, chlorides calculated as salt, 0.0609, sulphates very strong traces.
395 Porter .	1026.55	4.815	8.922	0.5484	0.1139	86.263	None	None ?.........................	Ash white, no excess of carbonates, chlorine calculated as salt, 0.1414, sulphates very strong traces, beer has a sour taste.
396 Ale	1012.489	3.686	4.937	0.268	0.08077	91.377	None	None	Ash white, carbonates not in excess, chlorine calculated as salt, 0.0393, sulphates strong traces.
397 Ale	1016.07	4.049	5.999	0.4063	0.0817	89.952	None	Questionable.............	Ash white, no excess of carbonate, chlorine calculated as salt, 0.1244, sulphates strong traces.
398 Lager...	1020.88	4.151	7.263	0.3024	0.1026	88.586	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.00229.
399 Lager...	1025.06	3.373	7.955	0.2523	0.0865	88.672	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0034, sulphates none. Fair sample of good beer.
400 Ale	1014.11	4.311	5.631	0.2445	0.08273	90.358	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0415, sulphates strong traces.
401 Ale	1006.42	5.282	4.056	0.3176	0.1125	90.662	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0232 per cent.
402 Porter ..	1026.98	3.092	8.184	0.309	0.10182	88.724	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.03416 per cent.
403 Ale	1022.43	6.756	8,651	0.511	0.1661	84.593	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.04348 per cent. A very strong and heavy beer.
404 Ale	1019.98	4.098	7.024	0.236	0.09217	88.878	None	None	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0183 per cent.
405 Ale	1016.40	4.435	5.985	0.2244	0.0780	89.590	None	None	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.02073 per cent.

BEER ANALYSIS — Continued.

Number of sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter.	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
406 Ale	1002.10	5 394	2.976	0.290	0.1227	91.630	None	None	Ash white, no excess of carbonates, sulphates none, chlorine calculated as salt, 0.02106.
407 Lager	1014.28	3.194	5.190	0.2906	0.09268	91.616	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0138 per cent.
408 Lager	1017.67	3.056	5.932	0.2301	0.0794	91.012	None	None	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.023. A very good sample of beer.
409 Lager	1011.76	4.612	5.177	0.2419	0.08151	90.211	None	None	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0463 per cent.
410 Lager	1015.41	4.659	6.101	0.309	0.1063	89.240	None	None	Ash white, carbonates not in excess, sulphates in strong traces, chlorine calculated as salt, 0.0092 per cent.
411 Lager	1017.97	4.004	6.457	0.2557	0.9385	89.539	None	None	Ash white, no excess of carbonates, sulphates in very slight traces, chlorine calculated as salt, 0.0506 per cent.
412 Ale	1010.69	3.381	4.318	0.2409	0.06085	92.301	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0510 per cent.
413 Lager	1016.20	4.2104	6.0608	0.3207	0.10313	89.7288	None	None	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.009209 per cent.
414 Lager	1019.24	3.260	6.431	0.316	0.0856	90.309	None	None?	Ash white, no excess of carbonates, sulphates very heavy traces indeed, chlorine calculated as salt, 0.0229 per cent.
415 Lager	1011.45	4.344	4.978	0.206	0.0716	90.678	None	None	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0092 per cent. A very fine sample of beer.
416 Lager	1011.51	7,061	6.091	0.3498	0.08953	86.848	None	Yes.	Ash white, no excess of carbonates, sulphates very strong traces, chlorine calculated as salt, 0.0162 per cent.
417 Ale	1009.29	3.392	3.962	0.2334	0.0624	92.646	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.04407 per cent.
418 Porter	1013.41	3.684	5.192	0.2430	0.06167	91.124	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0300 per cent.
419 Lager	1011.64	3.410	4.588	0.266	0.0886	92.002	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0278 per cent.
420 Ale	1015.64	4.997	6.293	0.308	0.0963	88.710	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.0253 per cent.
421 Porter	1016.58	3.553	6.151	0.2831	0.08685	90.296	None	None	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.02305 per cent.
422 Ale	1019.94	3.790	6.835	0.2702	0.06971	89.375	None	Apparently none.	Ash white, no excess of carbonates, sulphates in very strong traces, chlorine calculated as salt, 0.0206 per cent.
423 Ale	1026.38	3.208	8.077	0.2903	0.06739	88.715	None	None, probably	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.04339 per cent.
424 Ale	1005.99	6.257	4.344	0.347	0.08477	89.399	None	None?	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.0652 per cent.
425 Ale	1020.98	7,304	8.527	0.51081	0.14255	84.169	None	None	Ash white, no excess of carbonates, sulphates strong traces, chlorine calculated as salt, 0.05735 per cent. A remarkably strong, heavy beer.
426 Weiss	1001.83	1.695	1.277	0.126	0.0311	97.028	None	None	Ash white, no excess of carbonates, sulphates heavy, chlorine calculated as salt, 0.0443 per cent. Should not be called beer.
427 Porter	1010.38	5.882	5.375	0.543	0.1161	88.743	None	None	Ash white, no excess of carbonates, sulphates very heavy, chlorine calculated as salt, 0.0975 per cent. Beer somewhat sour.
428 Weiss	1002.46	1.355	1.294	0.157	0.0315	97.351	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0887.

429 Lager..	1016.93	3.887	6.124	0.203	0.0818	89.989	None	None	A very fine glass of beer. Ash white, no carbonates in excess, salt only in traces, no sulphates.
430 Ale	1014.92	4.319	5.831	0.238	0.0818	89.850	None	None	Ash white, no excess of carbonates, sulphates very strong, chlorine calculated as salt, 0.03 per cent.
431 Porter..	1013.58	4.446	5.551	0.309	0.0747	90.003	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, equal to 0.161 per cent. Beer is not sour (heavy salted).
432 Ale	1015.76	4.271	6.014	0.292	0.0841	89.715	None	None	Ash white, no carbonates in excess, sulphates very heavy, chlorine calculated as salt, 0.076 per cent. Beer is not sour
433 Porter..	1022.37	3.783	7.450	0.371	0.0785	88.767	None	None	Ash white, no excess of carbonates, sulphates rather heavy, chlorine calculated as salt, 0.135 per cent (heavy salted). Has slight sour taste.
434 Lager....	1012.83	2.670	4.554	0.206	0.0723	92.776	None	None	A very light beer (perhaps so-called present-use beer), taste slightly sour. Ash white, no excess of carbonates, sulphates absent, chlorine calculated as salt, equal to 0.0069.
435 Lager....	1022.32	3.424	7.401	0.256	0.1026	89.175	None	None	Ash white, no excess of carbonates, no sulphates, chlorine calculated as salt, 0.0068 per cent. Beer has a fair taste, is not sour.
436 Lager ...	1018.75	1.584	5.537	0.172	0.0671	92.879	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0045 per cent.
437 Lager....	1015.22	2.825	5.255	0.204	0.084	91.920	None	None	Ash white, no excess of carbonates, sulphates absent, chlorine calculated as salt, equal to 0.004 per cent. Beer has a pitchy taste.
438 Porter..	1009.49	5.671	5.044	0.350	0.1038	89.285	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0347 per cent. This porter is rather sour in taste.
439 Lager..	1017.21	3.554	6.066	0.241	0.0866	90.380	None	None	Ash white, no excess of carbonates, chlorine in traces, no sulphates.
440 Lager....	1016.41	4.212	6.163	0.237	0.0938	89.595	None	None	Ash white, no excess of carbonates, sulphates absent, chlorine calculated as salt, 0.0045 per cent.
441 Lager....	1018.16	3.944	6.472	0.240	0.0958	89.584	None	None	Ash white, no carbonates in excess, no sulphates, chlorine calculated as salt, 0.004 per cent.
442 Weiss...	1004.01	0.964	1.407	0.096	0.0264	98.495	None	None	Ash white, no carbonates in excess, sulphates very heavy, chlorine calculated as salt, 0.0104 per cent. This should not be called beer. Taste sour, but not excessive.
443 Lager ...	1015.16	3.999	5.750	0.234	0.0865	90.251	None	None	Ash white, no excess of carbonates, no sulphates present, chlorine calculated as salt, 0.0046 per cent.
444 Lager..	1017.47	3.140	5.935	0.2249	0.0852	90.925	None	None	Ash white, no excess of carbonates, no sulphates, chlorine but in traces.
445 Lager....	1017.59	2.945	5.882	0.232	0.0936	91.173	None	None	Ash white, no excess of carbonates, no sulphates present, chlorine only in traces.
446 Lager ...	1022.01	2.922	7.001	0.2701	0.0959	90.078	None	None	Ash white, no excess of carbonates, no sulphates present, chlorine calculated as salt, equal to 0.0091 per cent.
447 Ale	1019.46	5.130	7.323	0.270	0.0893	87.547	None	None	Ash white, no excess of carbonates, sulphates very heavy, chlorine calculated as salt, 0.0229 per cent. Beer is not sour.
448 Lager..	1017.26	3.146	5.978	0.278	0.0866	90.876	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.016 per cent. Beer has a fair taste and is not sour.
449 Lager...	1013.19	4.791	5.193	0.262	0.0777	90.016	None	None	Ash white, no excess of carbonates, sulphates very heavy, chlorine calculated as salt, 0.0115 per cent.
450 Lager..	1015.01	3.397	5.423	0.246	0.0704	91.180	None	None	Ash white, no excess of carbonates, sulphates heavy, chlorine calculated as salt, 0.0184 per cent.
451 Lager....	1018.15	3.728	6.361	0.249	0.0873	89.911	None	None	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0112 per cent.
452 Lager ...	1014.44	3.006	5.1205	0.3024	0.0655	91.874	None	Apparently	Ash white, no excess of carbonates, sulphates very heavy, chlorine calculated as salt, 0.02077. This sample of beer, though a late one, was too sour to drink.
453 Lager..	1013.52	6.972	6.459	0.293	0.0632	89.569	None	Yes, hardly doubtful.	Ash white, no excess of carbonates, sulphates considerable, chlorine calculated as salt, 0.0208. Phosphoric acid very low as compared to the total ash.
454 Ale*....	1022.16	2.707	6.932	0.322	0.113	90.361	None	None ?......................	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt 0.0757 per cent. Beer has a sour taste.
455 Porter..	1019.91	4.152	6.769	0.321	0.080	89.079	None	None ?......	Ash white, no excess of carbonates, sulphates heavy, chlorine calculated as salt, 0.0469 per cent.

* India pale.

BEER ANALYSIS — Continued.

Number of sample.	Specific gravity.	Percentage of alcohol by weight.	Percentage of extractive matter.	Percentage of ash.	Percentage of phosphoric acid.	Percentage of water.	Substitutes for hops.	Substitutes for malt.	Remarks.
456 Lager ..	1015.78	2.971	5.452	0.240	0.0875	91.577	None	None	Ash white, no excess of carbonates, strong traces of sulphates, chlorine calculated as salt, 0.0069 per cent.
457 Lager ...	1020.38	3.575	6.875	0.1805	0.0597	89.550	None	None	Ash white, no excess of carbonates, sulphates in traces. A very fine sample of beer.
458 Weiss..	1005.46	0.755	1.725	0.222	0.0315	97.520	None	Yes apparently.........	Ash white, no excess of carbonates, sulphates present, chlorine calculated as salt, 0.0069 per cent.
459 Ale	1022.42	3.096	7.181	0.352	0.06082	89.723	None	Yes	The phosphoric acid much too low for ash. Ash white, no excess of carbonates, sulphates very heavy, chlorine calculated as salt, 0.0309,
460 Weiss...	1007.78	1.873	2.855	0.235	0.0396	95.272	None	Apparently	Ash white, no excess of carbonates, sulphates in traces, chlorine calculated as salt, 0.0522 per cent.
461 Weiss...	1007.09	0.8029	2.219	0.285	0.0287	96.978	None	None	Ash white, no excess of carbonates, sulphates in strong traces, chlorine calculated as salt, 0.211, very heavily salted, no beer in the proper sense of the word.
462 Weiss...	1004.39	1.975	2.010	0.1833	0.048	96.015	None	None	Ash white, no excess of carbonates, chlorine calculated as salt, 0.0793 per cent, sulphates in traces.
463 Lager*..	1003.97	4.819	3.219	0.151	0.0598	91.962	None	None	Ash white, no excess of carbonates, sulphates absent, chlorine a trace.
464 Porter .	1015.34	5.083	6.294	0.325	0.09137	88.623	None	None	Ash white, no excess of carbonates, sulphates considerable, chlorine in traces. The beer had a very slight acid taste.
465 Ale†	1009.18	5.878	5.011	0.295	0.0797	89.111	None	None	Ash white, no excess of carbonates, sulphates strong, chlorine calculated as salt, 0.0162 per cent,
466 Lager‡ .	1017.44	3.4501	6.056	0.230	0.0719	90.494	None	None	Ash white, no excess of carbonates, sulphates absent, chlorine in traces. Taste rather sour.
467 Lager§ .	1017.72	4.505	6.606	0.293	0.0957	88.889	None	None	Ash white, no excess of carbonates, sulphates absent, chlorine in traces. This beer had a rather sour taste.
468 Ale‖	1015.09	2.636	5.177	0.314	0.0774	92.187	None	None?.....................	Ash white, no excess of carbonates, sulphates in heavy traces, chlorine calculated as salt, 0.0092 per cent. A fine hop-flavored sample of beer.
469 Ale	1010.00	4.304	4.569	0.234	0.0749	91.127	None	None	Ash white, no excess of carbonates, no sulphates present, chlorine calculated as salt, 0.057 per cent.
470 Lager ...	1013.28	4.302	5.414	0.226	0.0889	90.284	None	None	Ash white, no excess of carbonates, sulphates absent, chlorine a trace.
471 Lager ...	1018.58	4.110	6.659	0.236	0.1008	89.231	None	None	Ash white, no excess of carbonates, sulphates absent, chlorine a trace. A good sample of beer.
472 Lager...	1014.75	3.714	5.534	0.255	0.1059	90.752	None	None	Ash white, no excess of carbonates, sulphates absent, chlorine a trace,
473 Lager...	1012.82	4.035	5.061	0.2604	0.1204	92.904	None	None	Ash white, no excess of carbonates, sulphates none, chlorine in traces. A good sample of beer.
474 Lager...	1010.79	4.245	4.748	0.239	0.108	91.007	None	None	Ash white, no excess of carbonates, no sulphates, chlorine a trace.
475 Lager...	1020.05	3.720	6.870	0.292	0.0574	89.410	None	Questionable	Ash white, no excess of carbonates, sulphates present, the chlorine calculated as salt equal to 0.0367 per cent. Beer slightly sour.
476 Lager...	1015.31	3.858	5.764	0.295	0.1056	90.378	None	None	Ash white, no carbonates in excess, sulphates present in traces, chlorine calculated as salt, 0.023 per cent. Beer had a sour taste.

* Kaiser Lager. † India Pale Ale. ‡ German Lager. § Bavarian Lager. ‖ Bass' Ale.

It will be seen that no substitute for hops has been found, and that as regards substitutes for malt, the chemist speaks with great caution. He suspects the addition of glucose in several instances, but cannot pronounce on this point with any degree of certainty. No harmful ingredient has, however, been detected.

NORMAL BEER.

Do these analyses show a violation of the law in respect to containing ingredients that are "not normal or healthful to exist in such beverages?" On an affirmative reply to this question will depend the future action of the Board in the matter of prosecution. Manifestly before an answer can be given it will be necessary to have a clear understanding of what is a normal beer. Unfortunately, however, there exists no statutory definition, nor, in fact, any agreement among those supposed to be authorities.

ATCHERLY, in reference to what ought to be the composition of beer, says:

"Beer is the fermented infusion of malted barley flavored with hops which, by law (English), are the only substances permitted to be used in its manufacture. How far this law is carried out is a matter which only analysis can determine."

HASSALL says: "Malt beverages should consist solely *of the product of malt and hops*, the former of which has been subjected to fermentation, and all varieties of these beverages should be due to these and these alone, the color should be due solely to the degree of heat to which the malt has been subjected in the kiln and to the ripeness and color of the hops employed;" and adulteration is defined as follows: "Any other substances than the constituents of malt and their derivatives, hops and water in such proportion as in the case of stout, strong and pale ale, to reduce the absolute alcohol to less than 4.5 per cent, and in porter and beer to under 3.5 per cent. Although the law allows the addition of both sugar and salt we regard these additions as adulteration."

On the other hand malt may be derived from other grains than barley and in fact is. Webster defines malt as "barley or *other grain* steeped in water till it germinates, and then dried in a kiln thus evolving the saccharine principle." While a gentleman who evidently takes a somewhat liberal view, defines normal lager to be "a fermented beverage, not less than six months old, made from any starchy grain, and rendered bitter to suit the consumers' palate."

There seems to be, therefore, an agreement in defining malt beverages as being composed solely of malt and hops; but a difference in regard to the kind of grain from which malt is to be derived, some claiming that it should be confined to barley alone and others taking a wider latitude. It is evident that until a normal standard of beer is determined upon the present law will have little effect.

By way of ascertaining the views taken on this subject by the leading brewers of the country, correspondence was instituted with the Brewers' Association, and the following letter from the secretary will be read with interest.

ALFRED LUDLOW CARROLL, M. D., *Secretary :*

DEAR SIR — Availing myself of your kind permission I take the liberty to inform you that, at a meeting of the Advisory Committee of the United States Brewers' Association, Dr. Schwarz and I submitted your timely suggestion in reference to normal beer, recommending that the matter be referred to the Board of Trustees of the Association at its annual convention in May next. The committee, at once, passed a resolution to that effect and instructed me to transmit to you a copy of the same, and to assure you that the brewing trade is under many obligations to you for the interest you have manifested in our efforts to offer to the public a pure article.

Personally, I may be permitted to add, that you can do immense good by clearly stating in your official report what brewers should be allowed to use in the manufacture of beer and what not. So many prejudices are at present being aroused by biased persons against beer, and the ignorance of a great mass of the people on scientific subjects is so frequently appealed to in an insidious way that an official utterance from a competent authority as to what constitutes adulterations would greatly aid the honest brewers. At the same time you cannot, I think, serve the public better than by condemning, as severely as possible, the use of deleterious stuffs, and by recommending practicable laws of the utmost stringency for the punishment of adulterators."

G. THOMANN.

The following is the resolution referred to :

"*Resolved*, That this Committee submit to the United States Brewers' Association, at its next convention, the proposition of establishing a normal standard for the character of malt beverages so far as ingredients and age are concerned."

MODERN BREWING.

There are various contrivances resorted to by which time and labor may be saved, but whether in doing so the quality of the brew is improved may well be questioned. Of course all brewers had to learn their first lesson in malting the grain and converting its starch into sugar from nature, for this is really what nature does to provide the sweet fluid for the sustenance of her young.* Starch and gluten constitute the chief components of all grains, and they are designed to form the first nutriment for the tender plant; but being in their natural state insoluble in water, they cannot pass from the body of the seed to sustain the growing germ. As the sprouting, however, proceeds, chemical changes take place at the base of the germ, the gluten being changed into a white soluble substance called *diastase*, which acting on the starch converts it into grape sugar, which is soluble in water, and can thus in a liquid form be utilized for purposes of nutrition.

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* Chemistry of Common Life.— JOHNSTON.

The brewers at first caused the grain to sprout, thus producing diastase from the gluten, and thereby converting the starch into sugar, reduced to liquid form by the addition of water. The addition of yeast to this wort would split it up into alcohol and carbonic acid in the process of fermentation, and being flavored with hops would in due time form a pure and wholesome beverage. In the march of progress, however, man seeks to improve upon nature and science is called to his aid to enable him to do it. It was soon ascertained that a certain characteristic of the diastase pointed out the way for abbreviating the labor of brewing. Good malt was found to contain one pound of diastase to every hundred pounds of starch contained in the grain, and that this pound of diastase was capable of changing into grape sugar, not only one hundred pounds of starch, but ten times that amount; hence the brewer found that the diastase of a certain portion of malt was sufficient to change not only all the starch it contained into sugar, but the starch in many times that amount, and that raw grain could be added, thus avoiding the expense and time of malting the latter. This was the first departure from nature's slow and certain method; whether an improvement or not is open to question.

Another property of the diastase was discovered to be that heating the solution containing it to the boiling point, destroyed its power of changing starch into sugar. This determined the time when the wort might be safely boiled, and the hops introduced, which of course ought not to be until the starch had all been changed.

While some brewers have malting departments connected with their breweries, others, adopting perhaps the principle of division of labor, purchase their malt already prepared, and thus the malt business separate from the brewing, has grown to considerable dimensions in this State.

The brewer then commences where the maltster leaves off, and is saved the work of steeping, germinating and roasting the grain. While some brewers profess to use only malted grain in the manufacture of their beers, others frankly admit the mixing with it of glucose. Before, however, discussing the effect of this practice, it may not be devoid of interest to note the difference in the processes of brewing lager beer as distinguished from ale and porter, the consumption of lager so greatly preponderated in this State.

* It has been ascertained that the temperature at which the fermentation of the beer has taken place exerts a great effect on its keeping properties, and on its liability to become sour from the formation of acetic acid. When the wort is at a high temperature the action of the yeast is very brisk and the large bubbles of carbonic acid formed carry the yeast globules to the surface of the liquid where it forms a thick scum. The fermentation is called top fermentation. The scum prevents the access of the oxygen of the air to the fermenting fluid, and the yeast takes, therefore, the oxygen necessary for its formation from the sugar contained in the liquid. The sugar is thus destroyed before the whole of the nitrogenous matter held in solution has been used up by the yeast. The beer after it has been drawn off contains, therefore, in the case of top fermentation, nitrogenous matter, which acting as a ferment induces the oxidation of the alcohol and the formation of acetic acid. When, on the other hand, the wort is fermented at a low temperature, as is the case in the preparation of Bavarian beer, carbonic acid escapes from the liquid in minute bubbles, and the yeast is not carried to the top but remains at the bottom. Hence this mode of fermentation is called bottom fermentation. The oxygen of the air has free access to the liquid and consequently the yeast takes the necessary oxygen from the air instead of the sugar, as in the previous case and the nitrogenous matter is wholly converted into yeast before all the sugar is decomposed. The beer thus prepared contains, therefore, but little nitrogenous matter which might act as a ferment, and it keeps consequently much better than beer prepared by top fermentation. In the latter case the yeast consists of gluten oxidized in a state of putrefaction and the bottom yeast is the gluten oxidized by slow combustion.

THE GLUCOSE QUESTION.

A good deal has been written about the deleterious nature of glucose and the evils resulting from its use in the brewing of beer, which examination shows to be much exaggerated. The brewer, it is claimed, requires malt, whether obtained from barley or other grains, mainly for the sugar or glucose it contains. The starch of the grain is converted into sugar, and the sugar in the process of fermentation into alcohol. Manifestly whether the brewer goes through the long process of malting the grain, in order to obtain therefrom the glucose, or utilizes glucose already prepared, the result is the same.

Still, however, we may dissent from the unreasonable position taken by many in regard to glucose and its properties, it will not be safe to dispose of this question in a summary way, for, as Hassall very properly remarks:

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* **Hassall: Food and its adulterations. London, 1886.**

"The extract of malt contains a variety of other substances, organic and mineral, beside sugar, so that the beverage produced from brewing malt extracts and the mixture of this with sugar and various other substances is very different in its actual composition and in its dietetic properties and effects."

The Massachusetts Board of Health, as quoted from the New York American Analyst, February 15, 1886, has some very sensible comments on this glucose question, calculated to dispose of popular fallacies regarding its supposed dangerous qualities. When properly and carefully manufactured, it regards it as a wholesome food, deficient however in sweetening power; but a dangerous article to be taken into the system when carelessly prepared. The question then turns upon its mode of preparation, Glucose is usually made from the starch of corn by boiling it with dilute sulphuric acid, a process first discovered by Professor Kircoff, a Russian chemist in 1811,* and largely practiced in Austria and Germany since that time; but only within a comparatively recent period introduced into this country. The process is thus described by the Massachusetts Board of Health:

"The starch is first obtained in a pure condition from the corn, then mixed with water, and the mixture is heated to boiling. Sulphuric acid is added to the extent of about two per cent, and it is then boiled about three hours. The starch is by this time converted to sugar and dextrine, both of which are in solution. The free acid is then got rid of by the addition of chalk or marble dust, which with the acid forms calcic sulphate, which settles to the bottom and leaves a clear supernatant fluid, which yields glucose and dextrine. Should all of the acid not be removed, or should the calcic sulphate be in any amount retained, it is evident that the product would not be entirely harmless, since disturbances of the digestion might follow its use. Moreover, the contaminations which are ordinarily present in commercial sulphuric acid will of course be present with the acid," and JOHNSTON claims that "such beer is deficient in the aromatic principle found in the skin of the grain."

It is hardly within the province of this Board in the absence of any law on the subject, to dictate to the brewers what they shall use in the making of beer, or declare that malt shall be made from barley alone when it is not yet settled that malt from other grains will not answer as well. It is however the duty of the Board to insist that no harmful constituents shall be used, leaving it to the brewers themselves to make their own selections from the whole range of wholesome substances.

It will be safe then for the State Board to recommend that the laws should state specifically that malt beverages should contain no other ingredients than the constituents of malt and with their derivatives as well as hops and pure water.

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* See Second Rep. State Board of Health of New York, page 596.

EXCESS OF BICARBONATE OF SODA.

The practice of charging the beer kegs with bicarbonate of soda, is one resorted to only when needless haste is made in turning out upon the market beer before the process of fermentation has been completed, and fermentable matter remains which is likely to sour. The bicarbonate of soda counteracts this tendency to acetification and gives the beer a good head; but beer that has lain from four to six months has in itself sufficient carbonic acid without resorting to this artificial charging, and the process of fermentation is so complete that there is left in it nothing likely to acetify. The practice, therefore, is simply an accusation of the beer to which it is added.

Dr. Bartley, of Brooklyn, speaks of the custom of brewers sending out to the market beers only fourteen days old, containing more or less yeast, and clarified by artificial means instead of in the natural way. He further shows that while bicarbonate of soda taken into the stomach in small quantities is quite harmless; yet in the frequent potations of habitual beer drinkers, who imbibe say thirty glasses per diem, an amount ranging from 180 to 200 grains of bicarbonate of soda, may be introduced into the system, with necessarily deleterious effect.

Another danger to be guarded against is at the retailers where it is alleged adulteration is carried on, either with the object of increasing the quantity, its intoxicating power, its pungency or to revive old beer and give it an artificial color, resulting, of course, in a deteriorated article. No matter how good the beer may be when brewed it is always liable to harmful manipulation in the hands of a conscienceless retailer. Water is added to increase the quantity with the result of lowering the proportion of its constituents and lessening its flavor. Tobacco or the seeds of cocculus indicus are added for intoxicating effect; color and flavor are given by means of burnt sugar, liquorice, treacle, quassia, coriander and carraway seeds. To increase the thirst of the consumer salt and cayenne pepper are put in, and various mixtures are concocted to get rid of stale ale. For these the brewers are certainly not responsible.

To maintain a proper surveillance over all the saloons of the State would be a work of great magnitude, and could only be effected by pressing into service the local boards of health of every town, village and city.

IMPORTANCE OF PURE WATER.

The sanitary surroundings of breweries, and the purity of the water employed, are all of vital importance to the quality of the beer. In regard to the latter, it has been remarked that

"It is well known that the quality of the water used has a great effect on beer, on the extraction of the soluble constituents of the malt, and on the subsequent clarification of the fermented beverage.

For the first purpose a soft or even an alkaline water would appear to be the most suitable; but, for the second, there is no doubt that waters containing much lime are the best. The lime combines with the phosphoric acid of the malt and forms an insoluble salt, which assists in carrying down any suspended matter.

In the course of boiling, the excess of carbonic acid in the water, by which the carbonates of lime and magnesia are dissolved, is expelled, and these salts are precipitated; again, the alkaline phosphates present in malt have the power of decomposing and precipitating sulphate of lime, phosphate of lime and a soluble alkaline sulphate being formed, but part of the phosphate of lime so formed is re-dissolved in the acid generated during fermentation. The water from being at first hard, thus becomes comparatively soft, and in this state is well suited for the extraction of the active properties of the malt and hops."

In regard to the water used by the breweries of our own State, of course, that depends upon the local supply for potable purposes. The subject of the purity of potable water-supplies has become of so much interest to the citizens and has led to such earnest efforts to secure this end, that the quality of the beer may be expected to partake of the improvements made in this direction.

SANITARY CONDITION OF BREWERIES.

A few selections from the notes of our inspector in regard to the sanitary condition of the breweries visited may serve as an example of their general condition.

One brewery in   was an old place in bad repair, and so foul and unclean that it would seem as though any thing manufactured in such a place must be unfit for drink.

Brewery in   was small, dirty and loosely conducted.

At   is a medium sized ill-kept place, and, from various signs, should judge the beer to be bad. Owner's reputation is bad and retailers refuse to handle his beer quite frequently.

At   , medium sized brewery, not very clean. The cellars were quite sour.

Another at   was of medium size and clean up stairs, but the cellars were foul, dirty and utterly unfit for use.

Another at same place was only fairly kept and their beer was apparently very bad.

At was a small dirty brewery, the kettle for boiling the beer and a stable full of foul smells occupying a cellar together.

At was a fairly clean, medium sized brewery. The cellars were particularly sweet for an ale brewery.

Another at was old and undergoing repairs and consequently dirty, but I judged, that at best, it is slovenly kept.

Another place was middle sized, carelessly run and not over clean.

At is a very large establishment consisting of two breweries divided by a canal. They are connected by a passageway built in the arch of the creek which runs under the canal and into which most of the sewage of....runs. The odors from this creek permeate the cellars adjacent to the passageway. The rest of the breweries are very well kept, sweet and clean. A malt-house is connected with the breweries in which all the barley used is malted. Well-water is used in making the beer.

Another brewery at was a good sized place and well kept, except that the cellars were very wet, the result of an overflow, the drain having been stopped up during the heavy storm of Saturday morning.

Another brewery out of the city of , uses water from a large spring. The buildings are all new, and, as at another brewery, an ice machine is used which is much cleaner than ice.

Another brewery in was a little, dilapidated, dirty place.

Outside of is a brewery which is an old place and dirty.

In was a small place, clean and very dry.

A brewery at was small, old and dirty. A new part is nearly finished and will soon be occupied, when the old place will be torn down. Its cellars are blasted out of solid rock which comes to within two feet of the surface.

Another brewery, at same place, is a large concern, well managed and fairly clean. Their cellars are in the rock and go down forty-four feet and are well drained, all the dripping of water and beer running into two tubs sunk below the lowest cellar floor, from whence it is pumped up and allowed to run into the sewer. A like system is needed in all the breweries having rock cellars, but this is the only one in which I have found it.

Next brewery visited was medium sized and not very clean. Most of their cellars are in the rock.

Another was a very small place, rather dirty, with poor cellars.

At the largest brewery in , the buildings, machinery, etc., are new and very fine, well-kept and clean. The cellars are in the rock, and are carefully washed and drained.

A brewery was found to be fairly clean up stairs but the cellars were foul and dirty.

Another well-kept brewery has its cellars in the rock and they are well-washed and drained.

The next was of medium size, dirty, with sour smelling cellars.

At , is a brewery, fairly well kept, although the lower parts are very wet.

At , is a medium-sized place, not clean, not well-managed and part in poor repair.

At , a medium-sized place, using water pumped directly from river. It was clean and fairly kept.

At , is a large, very well-kept brewery. It is very clean and and carefully drained.

At , a medium-sized brewery, fairly clean, with well-drained cellars. Spring water is used in the beer.

Another brewer, at same place, secures the water for his beer from a well and a spring.

At , was a very small, dirty place at which water from a well is used in the beer.

At , visited an old established place where spring water, brought from out of town, is used. They claim to make their beer just as good as when the brewery first started, that is from malt and hops alone. They complained bitterly of the ruinous competition of brewers who use cheap articles.

A number of other breweries visited were described as having foul, wet and filthy cellars, while those connected with other breweries were sweet and clean.

Recommendations.

First. The law should be amended so as to define the normal constituents of malt beers or malt beverages.

Second. That a malt beverage should, as its name indicates, contain only malt and hops, with their constituents, and water.

Third. That Congress should pass a law making it obligatory upon the Internal Revenne Department, at all times, to permit publicity to be given to the ingredients reported to it by the brewers and distillers as having been purchased from which to brew or distil.

Fourth. That the local boards of health, throughout the State, should have a special surveillance over the sanitary condition of the breweries within their jurisdiction, and should, through their health officers, make periodical visits and report upon the condition of these establishments.

Fifth. That no other than pure water should be used in the brewing of beer.

Sixth. That the local boards of health, throughout the State, should have a special surveillance over the saloons located in their jurisdiction, and should, from time to time, have samples purchased of the beverages sold and forward them to an analyst for examination ; and that some arrangement should be made whereby the expense of these analyses be defrayed by the board of excise.

Seventh. That no condition of secrecy should be imposed in the law relating to beers, spirituous or malt liquors, but that it should be admissible on the finding of any adulterants or harmful ingredients in any sample examined, to have the fact made public as the best means of correcting the pernicious practice.

FREDERICK CARMAN,
Assistant Secretary.

At a meeting of the State Board of Health, at New York, on the 3d of March, 1886, the Chairman of the Executive Committee presented with his approval the above report, and, on motion, its recommendations were adopted, the report ordered printed and laid before the Legislature.

FREDERICK C. CURTIS, M. D.,
Acting Secretary.

SYRACUSE, *February* 26, 1886.

To the State Board of Health of the State of New York:

GENTLEMEN — I have the honor to submit, herewith, the following report of my examination of the samples of beer sent to me per express, by your Secretary.

Most respectfully,
FRANCIS E. ENGELHARDT, PH. D.,
Analyst.

Having in a previous report to your honorable Board (contained in the second annual report of the State Board of Health, Albany, 1882, on page 667 to page 687) given the definition, constituents, methods of brewing and analysis of beers, together with some remarks on adulterations and an exhaustive report on the literature of malt liquors, I shall confine myself to-day to the results found in my late investigation of the beers manufactured in the State of New York, adding such recommendations and remarks as I deem most proper to the subject under consideration.

The number of samples of beer examined up to date are 476. Among them were samples of porter, ale, lager beer, present use beer and weiss beer.

The results of the analyses of these samples of beer, which I forwarded from time to time to the Secretary's office in Albany, and which have been very kindly tabulated by the Assistant Secretary of your honorable Board, show by comparison remarkable differences both in composition and physical characters.

Thus, the specific gravities of the various samples of beer vary from 999.44, found in sample 248, to 1037.00 of sample 289.

The specific gravities of the samples of beer after removal of alcohol (by evaporating 100 cubic centimeters or grammes of beer, to about one-third, and then replacing the loss thus sustained exactly by distilled water, to 100 cubic centimeters or grammes), varied from 1001.83, found in number 426, to 1033.63, in number 207.

The variations in alcoholic strength are not less remarkable. The lowest amount of alcohol was contained in sample 132, namely, 0.677 per cent by weight, and the highest in sample 32, namely, 8.994 per cent by weight.

The quantity of extract varied from 1.277 per cent, in sample 426, to 10.058 per cent, in sample 207.

The ash of the beers was lowest in sample 155, namely, 0.069 per cent, and highest in sample 403, namely, 0.4676 per cent. Apparently, number 191 has the most ash, namely, 0.557 per cent, which includes 0.0992 per cent of salt; if we deduct the latter from 0.557 per cent, only 0.4578 of pure ash remain.

The addition of salt to beer is unquestionably practiced in this State to a great extent by porter, ale and weiss beer brewers, but much less by lager beer brewers. It is added by some to give taste to the beer, as they express it; by others to clarify the beer, since by the addition of salt to beer, rich in carbonic acid-gas, the latter is partly liberated, and while ascending in the beer, carries along to the surface the mechanically suspended matter in the beer, and which then may be removed by skimming. If I am properly informed, the English law allows the addition of fifty grains of salt per gallon of beer, or about 0.086 per cent. Of the samples examined for salt 23 contained over 0.10 per cent; and in sample 76, no less than 0.338 per cent were found.

That salt creates thirst is well known, and hence we may conclude that it is often added for this purpose. (Some samples of beer were found entirely free of salt — respective chlorine.)

A sample of beer, when having not received an addition of salt by the brewer, should contain no more than ten grains per gallon, and which may be due to the water employed, since only very rarely waters are entirely free of chlorine respective salt. If a water used for malting, brewing, etc., contains more chlorine than the equivalent of ten grains of salt, it is in my opinion unfit for these purposes (except waters in salt regions, etc.) since the excess above ten grains per gallon is almost in every case due to drainage from a neighboring privy, cess-pool, broken sewer, etc., into this water. In the first samples of beer analyzed, the salt (chlorine) was not determined; first when the ash in many samples found was much larger than could be expected by a comparison with the other ingredients of the beer. I determined the chlorine and calculated from the results of the former the corresponding amount of the latter. I found, moreover, that when deducting the salt from the total ash, the latter was in many cases about three times greater than the phosphoric acid found.

Although salt is not injurious in the quantities usually added to beer (0.10 per cent salt equal to about fifty-eight grains per gallon of beer) there should be a proper limit, if the addition of salt is allowed.

The phosphoric acid is a very important ingredient in good beer. It should amount to about one-third of the pure ash of the beer. In my examination I found it lowest in sample 442 (a "weiss beer") namely, 0.0264 per cent, and highest in number 403, namely, 0.1661 per cent.

Beers with a high percentage of alcohol and extract and a low percentage of phosphoric acid may be considered, as beers made with substitute for malt, especially glucose and grape sugar. The addition of the latter two to beer wort (taking the place of a certain amount of barley malt in the manufacture of beer) are not objectionable if properly prepared on the ground of being injurious to health, but on the ground that by substituting them for malt, the normal constituents of a good malt beer are changed to the *detriment* of the consumer, since they neither contain albuminoids nor phosphates, both of which must be considered very important foods in the beer.

In my former report, on page 678, I said:

"To give to beers, especially those that have been made by *substituting* a portion of barley malt by grape sugar, glucose, starch, potatoes at the required viscosity (vollmündig keit) and the *ash constituents* (albuminoids and phosphates) wheat bran and phosphates of the alkaloid are recommended." Some of the samples of beer submitted to examination seem to have received some of the latter treatment.

The employment of corn, rice, wheat and oats as substitutes of barley malt do not deprive the resultant beer of phosphoric acid and albuminoids in the proportion that grape sugar and glucose do, but nevertheless they are an imposition on the beer-drinking public and should not be allowed.

On page 667 of my report of malt liquors of 1882, I said:

"Under the name 'beers' in the widest acceptation of the word, are included beverages which are produced by vinous fermentation and which usually are still in a state of slow after-fermentation. They differ from distilled liquors, especially in their larger amount of solid matter remaining after the removal of water and alcohol (volatile acids). This residue consists of sugar, dextrine, albuminoids, phosphoric acid, potash," etc.

"If we accept this definition of 'beers' it follows that they may be made from any saccharine or starch-containing material; thus opening the door for the unscrupulous manufacturer to use all kinds of adulterations, substitutes, etc. Hence it is *absolutely* necessary to define 'beers' as the Bavarian government has done, namely, as wine-like liquids, yet in a state of after-fermentation prepared *only of barley, malt, hops, yeast and water.* To this might be added the lowest amount of malt and hops to be employed by the brewers in the manufacture of one barrel of beer of thirty-two gallons, and also the age the beer should have attained before it reaches the consumer."

"All similar beverages produced by the use or substitution of various materials for malt and hops must be sold under the name indicating the substitutes employed, as 'rice beer,' 'wheat beer,' 'corn beer,' 'grape sugar beer,' 'glucose beer,' etc. Thus all fraud would be prevented, a more uniform product obtained and a wholesome beverage insured."

The number of beers free of sulphates were 64, or about 13.5 per cent of the samples examined. Since many beers are brewed with water containing sulphates (especially sulphate of lime) their presence is but natural; an excess in many cases may be due to the addition of gypsum, but also, to some extent, to the use of grape sugar and glucose, since both of them often contain some sulphate of lime or gypsum. (My investigation of a number of glucose and grape sugar samples in this direction has not been far enough advanced to give proper figures now.) The use of bisulphite of lime as a preservative added to beer may also increase the sulphates.

To find the strength or percentage of saccharine matter in the beers (before it is submitted to fermentation) called "wort" we multiply the alcohol found in the beer by two (sufficiently accurate for all practical purposes), and add to the resultant product the amount of extract found in the same beer.

Beers with a saccharometer strength of the wort above 20 per cent were nine in number, namely:

Number.	Alcohol.	Extract.	Wort.
403	6.756	8.651	22.363
416	7.061	6.091	20.213
425	7.304	8.527	23.135
32	8.994	7.929	25.917
35	7.444	6.929	21.817
370	7.679	5.829	21.187
389	8.193	5.894	22.280
160	8.333	6.738	23.404
61	7.537	5.699	20.773

The lowest in saccharometer percentage was sample 31, namely, 3.235 (a kind of weiss beer). Beers like the above are usually made for export trade.

Of beers lighter in alcohol and heaviest in extract there are also several samples; No. 289 has of alcohol .9625 per cent by weight and 9.547 of extract; original wort, 11.472 per cent. Sample 132 contained .677 of alcohol in per cent by weight and 4.152 of extract, original wort, 5.422. (Liquids of this kind — I mean the latter one — should not be classified under the beers.)

Unfit to be drank either of being too sour, having a musty taste, or being too roily, ten numbers have to be recorded. A number of samples of beer (so called) sent to me for examination contained less than 6 per cent of saccharometer in their wort. Their number was 18; while 17 samples contained between 6 and 10 per cent.

A good beer, in my opinion, should be made of a wort of at least 11 to 12 per cent of saccharometer.

In regard to the physical characters of the beers under consideration, I found that 113 samples, or 23.79 per cent, could be considered perfect, 127 samples, or 26.50 per cent, almost perfect, and 219 samples had to be considered inferior, or about 46 per cent of the entire number examined. Slightly sour I found 81 samples; decidedly sour 58 samples.

Since a considerable number of the beer samples were collected during the warm weather, hence were exposed to its influence, some allowance should be made in considering the above results.

A considerable number of beer samples were young beers — perhaps, in most instances, not over fourteen days old. At the bottom of these samples (contained in champagne bottles) were heavy sediments of yeast. The brewer, when the first fermentation (the main one) is finished in the fermenting tubs, clarifies, though often in an insufficient manner, the beer by artificial means, and fills it in the casks intended for the retail trade. To give to the beer a certain amount of carbonic acid, above that which is remaining naturally in the beer, he adds a piece of compressed bicarbonate of soda (from one to two ounces, or more, according to the capacity of the cask); and if the beer contains an insufficient amount of lactic acid, etc., some tartaric acid, cream tartar, etc., is added. Thus this brewer is enabled to turn his capital over at least twelve times a year, while the honest brewer, who allows his beer to attain an age of from eight to twelve weeks, can do it only four times, or five times. But, apart from the money consideration, beer made in the manner just described, and sent to the consumer when only two weeks old, injures the latter's constitution, not only by the presence of soda in the beer, but also by the presence of the yeast, since, according to investigations made under the supervision of Professor Von Pettenkofer, beer roily from yeast cells, though respective small quantities of such beer are taken, it acts on the digestive organs in such a manner as to produce catarrh of the stomach and intestines; hence the city ordinances of many Bavarian cities contain laws prohibiting the sale of beer roily from yeast cells, or decidedly sour, under heavy penalties. ("Repertorium der Analytischen Chemie," No. 21, November, 1885.)

In none of the 477 samples of beer submitted to me by a careful investigation for hop substitutes, any of the latter could be proved to be present with certainty.

In regard to substitutes for malt, I have marked each sample in regard to the results found.

In conclusion I would recommend: First — to define beer (*to be made of barley, malt, hops, yeast and water only*) — that beer, made by substituting wheat, corn, rice, grape sugar, etc., for a portion of barley malt, must be called according to the substitutes, rice beer, wheat beer, etc.

Secondly — No lager beer to be sent in the market, that shows on examination to have been made from a wort of less than 11 to 12 per cent saccharometer.

Thirdly — That no lager beer be sent to the consumer less than eight to twelve weeks old, and properly clarified, before sending, so that it be free of yeast cells, as far as this can be accomplished.

Fourthly — That no bicarbonate of soda be added to the beer sent to consumers to give it the artifical carbonic acid gas, nor glycerine to increase its viscosity.

Fifthly — That no substitutes for hops are permitted, though they be harmless.

REGISTRATION AND VITAL STATISTICS.

REPORT

OF THE STANDING COMMITTEE ON REGISTRATION AND VITAL STATISTICS.

With the exception of the cities of New York, Brooklyn, Yonkers, Buffalo and Albany, all local health organizations throughout the State are required to send the records of births, deaths and marriages to the central office of the State Board of Health for registration. The Board is, therefore, relieved of the sanitary oversight, and the registration of the vital statistics records of 2,381,000 of the population of the State gathered in these large centers, and has charge of this work for the remaining 3,000,000 inhabitants scattered over its extensive area. The work of the Board, so far as its committee on registration and vital statistics is concerned, is to direct and secure the collection and registration of certificates, properly filled out, of all births, deaths and marriages, and, as essential to this, the organization of local boards of health in the towns, villages and cities in whose respective precincts they occur. After registry in the local office they are all registered together in the central office of the State Board.

Changes in the laws.— Difficulty has always been met with in enforcing the statutory requirements upon some individuals in the community to make these returns. Prior to the act passed by the last Legislature [an act for the preservation of the public health and the registration of vital statistics, chapter 270; passed May 12, 1885] physicians and midwives were required to make returns of births of which they had charge, and the returns of marriages were required of the officiating clergymen or magistrates. The lack of adequate authority and suitable methods has been felt. It is now made the duty of the parents or custodians of every child, within a specified time after its birth, to return the record of the same, duly attested by the physician or midwife, if any, in attendance; and every marriage is to be reported by the groom, with the attestation of the clergyman or magistrate performing the ceremony, or directly by the clergyman or magistrate. Many of these returns are still made, from long-continued habit, by the physicians and clergymen, and it is to be hoped that this will continue, thus materially facilitating the completeness of these returns. But the question can no longer arise as to the constitutionality of the obligation resting where it now does, and the enforcement of the law is entirely feasible, although time will be required to educate the people and the local boards of health to its complete observance. The returns of deaths, the obligation of which rests upon the undertakers or persons having charge of the dead, is likewise feasible of enforce ment. While it has been the experience everywhere, even in the older countries where the work of registration of vital statistics has been for a long time carried on, that it is very difficult to secure absolutely complete returns, still constant effort effects more and more perfection, and the beneficial influence upon it of the law of 1885, especially in the returns of marriages, has been felt during the year in the greater completeness of these returns.

The policy of the system of health organizations has been, since the State Board of Health was organized, to make the registration complete through the agency of the local boards of health exclusively. Although a copy of the law has been sent to every local board, still considerable correspondence has been required to explain that no dependence remains upon the means which county boards of supervisors had been empowered to use, under the Laws of 1847 and 1880 (chapter 154 of 1847, and 512 of 1880). These laws are all repealed by that of 1885 (chapter 270), and the system of registry, sanitary work and all the machinery of health organization is limited entirely to the State Board and the local boards of towns, villages and cities. The text of this law is appended to this report.

A set of model sanitary ordinances, based upon this law, has been prepared by the late secretary and offered to local boards for their guidance in preparing their local ordinances. The legality of their requirements is established, as they have been approved by the Attorney-General. It is No. 53 of this Board, and a copy may be found after the law as part of this report.

The work of registration has been placed in a satisfactory shape during the year. The early years of the Board were devoted to the primary work of organization, almost to the exclusion of this duty. There in consequence accumulated many thousands of certificates, far beyond the capacity of the regular clerical force in the office to register. In May, 1884, the registration was nearly two years in arrears, less than 50,000 certificates having been put into the books. By resolution of the Board additional clerks were employed, to whom this back work was committed, the regular clerks being put forward to the current registry. During the year this work has been completed, and, besides, index volumes nearly to the present time have been prepared. About 225,000 certificates are on the registers in the office, and the work is now kept within a few months of the current date. By means of the indexes and the chronological system of registration these entries of certificates are readily accessible, and not infrequent requests come to the office from all parts of the country and abroad for certified copies of the records. The registration is now being kept up by the regular clerks in the office.

Estimating the receipts of certificates of births, deaths and marriages at this office by the number received in four recent months, in which 30,569 were received, there will come to the office during the course of the year not far from 100,000 certificates. Some of these, however, are delayed returns.

A slight change has been made in the form of the blank certificates.

Heretofore the name of the county and of the town has been printed upon the form; this has involved delay in filling orders, was the cause of additional expense to the local boards, and was considered unnecessary, at least for the smaller towns.

The Board has adopted a form for recording still-births, prepared by the late secretary, Dr. Alfred L. Carroll. Heretofore there was no provision for the registry of these, and the blank forms upon which they were written were merely preserved without being recorded. A sheet has been sent to each registering officer upon which to enter these, preserving this register in his office, and he is directed, in sending his monthly returns here, to note the number of them, the certificates being retained in his office. As to the certificate of a still-birth, it should be considered as itself a certificate of death, calling for the issue of a burial permit.

To facilitate the work of the office, as well as to give regularity to that of the local boards, a circular has been issued directing local registering officers to send, at one time, by the 15th of every month, all the returns of births, marriages and deaths for the calendar month preceding.

Legibility is an important element of a certificate, and the lack of it in certificates which have passed the supervision of local health boards and reached this office is not infrequently encountered. It is particularly important on death returns, where the scrutiny which the law requires of the health officer over these certificates cannot be too thorough. Exactness in filling out answers to all questions on the blanks, and plain writing of the signatures should be required. The necessity of it is frequently found in the requests for transcripts of the records in this office. An urgent request for information as to the time of death of an individual has recently been received where it is difficult to determine whether it was "A." M. or "P." M.

The decision that local health officers are State officers and, therefore, necessarily coming under the requirements of the civil service examination whenever newly appointed, will effect two desirable improvements, a higher degree of competence and a greater stability in service. The latter point will operate to secure improvement in the supervision of the death certificates. At the request of the Civil Service Commission a circular has been sent to all local boards calling their attention to the requirements, without which appointments of health officers will not be valid; the board can either name one physician for a non-competitive examination or two or more for competitive examination. Three grades of questions, for towns, villages and cities, respectively, have been prepared by the board of examiners, and a written examination upon them is held by the county judges of the respective counties.

How far the local registry of large public institutions should be carried, swelling the mortality record of the locality beyond a legitimate degree, is an unsettled question. In large cities this is partly compensated for by the constant influx of young healthy adults from the country. But in small rural villages the mortality rate of large infant and insane asylums, prisons and alms-houses materially affects the death rate as compared with the accredited population. In these latter it would appear equitable that in all printed reports of mortality, presenting the comparative healthfulness of localities, the deaths of public institutions should be separated from those of the population of the place. For large cities, although this may be a question, it would seem that they might with propriety be accredited to the locality for the reason given. In all cases it would be best that the returns should come through the local board, at whose office they should first be registered to effect a uniform observance of the law. In regard to unknown dead, brought by accident, as by the tides or river currents, to a locality, the few that cannot be traced as they should be to their legitimate place will not materially affect the local mortality rate. Some solution of this whole question of the proper accrediting of mortality, in so far as it affects a study of the movements of disease and vital statistics, awaits yet a satisfactory solution.

There are twenty cities required by law to make returns to the Bureau of Vital Statistics, 347 villages and 944 towns, making 1311 potential local boards of health. Of the cities, all have organized boards and make regular returns. About one-third of the 347 incorporated villages in the State have local health organizations; part of these make their returns through their town boards, however, being organized only for sanitary purposes. All incorporated villages are required to maintain health boards, unless the consent of the State Board is obtained to the contrary. Provision exists, as will be found at section 7 of the law of 1885, whereby combined sanitary and registration districts may be formed. Many of the villages have but a few hundred inhabitants and are so much a part of the town that a separate organization is not desirable. There are about seventy-five villages having a population of 3,000 and over, and it would in many ways simplify the work if these alone were required to comply with the law in regard to establishing boards of health, except in cases where other conditions than size made it advisable.

Of the towns, about 700 have organized boards of health, most of which make more or less regular returns of vital statistics. A considerable number of these have been organized within the year. The 250 yet unorganized town boards are for the most part in the more retired rural localities. Prior to 1880 no system of town health organizations was thought of, and this, together with the lack of a local exigency to stimulate the specified officials to activity, yet operates to delay what is desired in this direction. Efforts are being constantly made to secure the organization of all boards. There can be no question but that the principle upon which the health work of the State is based, of having the local work done by local authority, under the advice and assistance of a central board, which is especially desirable to them because of their frequent change in *personnel*, and their to-be-anticipated inexpertness in sanitary affairs supplemented by the resources of the State Board is the best that can be devised and will be more and more productive, as it secures fuller operation, of the best results. By means of two sets of books kept in the office, record is kept of the local boards organized, together with their *personnel*, and also the regularity and number of their returns of vital statistics. A more perfect form for these books has been adopted during the year.

A Monthly Bulletin of Mortality was begun in April, 1884, and the issue of this has been continued through the year. This has proven of value in a two-fold way; regular information is obtained in its preparation of the activity of each reporting board and also a gauge of the healthfulness of all localities of the State, especially of the prevalence of preventable diseases, is secured. The publication distributes this information to the boards and to all interested, and contributes very much to keeping the people alert against all kinds of insanitary conditions that injuriously affect the public health. It has brought to light the laxity of collecting returns, and this has been rectified in several instances by this board, notably in the cases of Troy and Cohoes. Authority is given to this board to assume the registry of a locality if unsatisfactorily done by the local board. The committee on vital statistics are of the opinion that the good work of the board is very materially aided by the Monthly Bulletin.

In commencing the publication, the question as to how to represent all localities of the State, without specifying the mortality of every one of the reporting local boards in each issue, which was manifestly impossible even if desirable, was met by dividing the State into eight *sanitary districts*, which possessed some geographical and topographical individuality. This division had already been made for another purpose and with some amendment it was followed.

The Maritime district includes those counties bordering on tide-water, and the large commercial center of the State. It has a population, according to the census of 1880, of 2,098,580, the great proportion of which is urban. The *Hudson Valley district* includes the counties on either side of the river above Westchester, including Albany and Rensselaer; its population being 750,143, and in the seven cities in the district there being an estimated population of 247,000, or nearly one-third of the entire number. Topographically, it is uniformly hilly, and is generally well drained. The *Adirondack and Northern district* has a population of 330,434, and a very extensive area, including all the northern part of the State between the Vermont border, the St. Lawrence river and Lake Ontario. In it is the Adirondack region, justly famed as a health resort, and it also contains large regions of flat and often marshy territory, which is far from salubrious, containing a multitude of small lakes, rivulets and inlets from the large water bodies surrounding it. Much of it is but thinly settled, and there are but two cities in it, aggregating about 22,000 population. The

Mohawk Valley district lies along the course of the Mohawk river, including Oneida county, and has a population of 280,809, of which 80,000 is in the four cities of Schenectady, Amsterdam, Utica and Rome, with a considerable number of large villages. It is less hilly than the Hudson Valley district, and besides containing much of the most fertile land in the State has also a considerable manufacturing population. The *Southern Tier district* takes in the counties, seven in number, along our southern border. Its population is 365,746, and in its two cities of Binghamton and Elmira there are 45,000 inhabitants; besides it has numerous large villages. It is largely upland country and well drained. The *East Central* and *West Central districts* together include the central counties of the State, the division being somewhat arbitrary. The region is chiefly agricultural and for the most part rolling and some of it hilly, including, however, the territory of the small lakes, and some of its area being swampy and malarious. The population of the East Central district is 354,320, with the city of Syracuse of 65,000 inhabitants; of the West Central, 321,247, with the city of Auburn of 26,000 inhabitants. The *Lake Ontario and Western district* has a population of 578,505, and the four important cities of Buffalo, Rochester, Lockport and Oswego with 340,000 inhabitants, taking in the counties along the southern coast of Lake Ontario, and also Erie county. While its population is so largely urban, this is lessened in its bearing, as Buffalo, with 200,000, is not reported in the Bulletin. Reports from all the other twenty-four cities of the State are included.

In the Maritime district there are 47 towns, of which 9 have not organized boards of health.

In the Hudson Valley district there are 126 towns, of which 17 have not organized boards of health.

In the Adirondack and Northern district there are 138 towns, of which 45 have not organized boards of health.

In the Mohawk Valley district there are 136 towns, of which 33 have not organized boards of health.

In the Southern Tier district there are 141 towns, of which 74 have not organized boards of health.

In the East Central district there are 128 towns, of which 31 have not organized boards of health.

In the West Central district there are 122 towns, of which 27 have not organized boards of health.

In the Lake Ontario and Western district there are 105 towns, of which 19 have not organized boards of health.

This summary gives some idea of the relative conditions of these various divisions of the State and their relative degree of organization. It will appear that in the Adirondack and Northern district there are many towns unorganized, for the most part on account of the sparseness of their population and their remoteness from centers of travel, and that in the Southern Tier district the same is true, half of the towns yet having no boards of health, part of them for the same reason. About half of the towns having no organized health boards lie in these two districts. These considerations are to be taken into account in studying the Bulletins for the months of the year, which with a summary of the year's mortality are appended to this report.

During the year there were reported in the bulletin of mortality 80,407 deaths. Besides, there were received about 3,000 reports of deaths too late to appear in the bulletin. The mortality of one of the largest cities in the State — Buffalo — has not been included, and estimating its annual mortality at 4,000, we have about 88,000 deaths accounted for. Estimating the present population of the State at 5,400,000, an annual death-rate of twenty per 1,000 would give a total mortality of 108,000, at which estimate the returns accounted for would fall short 20,000. Although the death-rate of the large cities materially exceeds twenty per 1,000 annually, it may be considered that for the entire population, both rural and urban, this is above the average. A death-rate of eighteen per 1,000 annually for the estimated population of 5,400,000 would give 97,200 deaths. It may perhaps be fairly said that the number of deaths occurring in the entire State is nearer this estimate, and is not above 100,000 annually, and doubtless ninety per cent of the actual mortality is secured. The actual death-rate cannot be given on account of the irregularity with which many of the smaller places have made their returns.

Although it would appear that the deaths accounted for fall short of the probable actual death-rate about ten per cent, it should be noted that during the year about 5,000 more deaths were reported than in 1884. This was not due to a higher rate of mortality but to greater completness of returns and increase in the number of local boards of health organized.

The 10,000 deaths that are not accounted for fail of record partly from the lack of complete organization of all local boards throughout the State and partly from incompleteness in the returns of some that are organized. Reference to the bulletins will show that the death-rate per 1,000 of many localities is habitually so low as to make it evident that their returns are incomplete. Of all the returns of vital statistics, the death returns are most feasible of collection, and although it is the universal experience that absolute completeness is not met with, yet with our explicit laws it requires only sufficient energy on the part of the local officers to secure them very fully in this State. The efforts of this board in several marked instances have been followed by great improvement. As to the shortage due to non-organization of local town boards of health, the number and locality of which towns have already been referred to, it may be said that there is pretty steady improvement in this respect, and the efforts of the board are being constantly exerted in this direction. The organization and perfection of such work requires time and established habit, and is interfered with by the annual change in the local elective officers who are made the components of local boards.

But more could not be expected than has been accomplished during the short existence of the present system of sanitary management established in this State. The system fails in that it requires so large dependence upon local workers, but is admirable to a more then compensating degree in placing the administrative and executive work of protecting the public upon the towns directly under the advisory supervision of the central board, and experience abundantly shows that as one of its points of advantage, the work of registry and collection of vital statistics is important in keeping up the local organization and work, and its perfectness answers as a barometer of the general activity of the local board.

The *sanitary condition of the State* is exhibited by the monthly bulletins and the summary of them which has been given. Of the entire reported mortality about one-third was of children under five years of age. This was highest during the summer months, from diarrhœal disease, especially in July, when more than half the deaths occurred under this age.

For the entire State the ratio per 1,000 of deaths from zymotic diseases to the total mortality is 222.17. It was highest in the summer months and September. The zymotic death-rate was considerably higher in the Maritime district than in other parts of the State, and next to that is the Hudson Valley district, showing the relative preponderance of deaths from these causes in the urban over the rural population. This measure of healthfulness compared with the year preceding shows that the proportion of the preventable diseases to the total mortality is as 222.17 to 269.12, which was the zymotic death-rate for nine months of 1884. This diminution appears to have been, as the secretary shows in his report, largely in typhoid and diarrhœal diseases. In 1885 the conjoined ratio of deaths from these diseases per 1,000 total mortality was 104.07 against 146.40 in 1884. As these are the special filth diseases that are controllable by public hygienic improvements, it may be inferred that the result is at least in part the fruit of what has been done by organized sanitary work. As the secretary further indicates, this received additional emphasis from the fact that diphtheria which is more often to be traced to insanitary conditions of domiciles and premises instead of those of a more public nature and influence, was increased in the proportion of 56.06 deaths per 1,000 total deaths in 1885 to 47.65 per 1,000 in 1884.

During the early months of the year there was a very considerable and general prevalence of measles. Epidemics occurred from it in all parts of the State. Corresponding with it in time was the development of scarlet fever to a greater extent than later in the year, not, however, to an unusual degree.

Typhus fever fortunately appeared nowhere in the State in 1885, outside of the large cities that are beyond the jurisdiction of the board. It has existed in New York and Brooklyn to a moderate degree through the year, the total number of deaths from it being eighteen. In December it made its appearance in Albany, in the county penitentiary, and seven deaths occurred. Efforts are being made to trace its origin, and there is good reason to believe that its duration as an epidemic there will be short and unattended with spread of the disease outside of the institution. Small-pox has fallen more lightly upon the State than was with good reason anticipated in view of its alarming development in the neighboring city of Montreal. Repeated notices of warning and information was sent to all border towns and along all lines of railroad leading from Canada. Instructions were given as to embargo, quarantine and the protection of vaccination, all of which, with the train inspections afforded by the national government and the assistance of a healthy rousing of the popular mind, has doubtless secured our immunity. Vaccination has never been so general and never so satisfactorily done nor with so uniformly good vaccine virus. In some reports from town boards it appears that every individual has been offered vaccination. It is gratifying to the committee to note the readiness of the people generally to submit to this, as they are convinced that if it were universal its protection would be so complete that not another death from this disease would appear upon the bulletin of mortality of the State. It should be of all the preventable diseases the least to be feared because it is the only one that is absolutely preventable.

From consumption the ratio of mortality is quite uniform, presenting no marked variation either as to locality or as to time. The proportion of deaths to the total mortality was largest in the winter and spring months. The death ratio was smallest in the Southern Tier district and highest in the West Central district, there being in the latter about 155 deaths to the 1,000 total mortality. The next highest ratio is found in the Adirondack and Northern district. There may be a significance in this, pointing to the dependence of this disease often on a high level of ground water. In the last-mentioned district there is to be sure a favorite and for many cases desirable health resort for those afflicted with this disease, but in its large area is much flat soil-saturated territory. The same is true of some parts of the West Central district. No general sanitary improvement will do more to lessen this disease, which uniformly causes about fourteen per cent of the total mortality, and which has much that allies it with the preventable diseases, than the one which will secure drainage of the soil upon which habitations are constructed.

During the first five months of the year there was a remarkable prevalence of acute respiratory disease. Pneumonia especially caused a large mortality.

Of other causes of death, little needs to be said, as far as the precautions for prevention of disease by the machinery of health boards is concerned. The frequency of those which are more interesting to study, as well as their distribution, may be learned by reference to the monthly bulletins and the annual summary. This publication, while a constant source of information to the central office as to the conditions and tendencies of all localities of the State regarding their sanitary condition, also is of informing and inspiring value to the local boards as to their real and comparative healthfulness and at the same time an accumulation of data of value to the statistician and the student of sanitary science.

G. W. COOKE, M. D.,
Chairman.

AN ACT

For the preservation of the public health, and the registration of vital statistics.

Chapter 270. Passed May 12, 1885; three-fifths being present.]

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Constitution of City Boards of Health.

Section 1. It shall be the duty of the common council, upon the nomination of the mayor of every city in this State, except in the cities of New York, Buffalo, Albany and Yonkers and Brooklyn, which are hereby excepted from the operation of this act, to appoint a board of health for such city, to consist of six persons who are not members of said council (one of whom, at least, shall be a competent physician), who shall be nominated and appointed as follows: two persons for a term of one year; two persons for a term of two years; and two persons for a term of three years. The mayor of such city shall be a member *ex-officio* of such board of health, and shall be president thereof. The said board of health, when duly organized, shall appoint a competent physician (not a member of such board), who shall be health officer for such city. Upon the expiration of the term of office of any member of the board of health, appointed as herein provided, his successor shall be nominated and appointed in like manner for the term of three years; and the said mayor and common council shall also have power to fill any vacancy caused in such board of health by the death, resignation or removal from the city of any member thereof. And it shall be the duty of the trustees of every incorporated village in this State to appoint, once in each year, a board of health of such village, to consist of not less than three nor more than seven persons (who are not village trustees), who shall hold office for one year, or until their successors shall have been appointed. The said board of health thus constituted shall elect a president, and appoint a competent physician (not a member of such board) to be the health officer of such village. This section shall not be construed to remove any of the existing boards of health in any of the cities or villages of this State, but the successors of such boards shall be appointed as in this section provided.

Health Boards of villages.

Membership and organization of town Boards of Health.

§ 2. It shall be the duty of the supervisor, the justices of the peace and the town clerk in each town in this State, to meet in their respective towns within thirty days from the date of the town election in each year and elect a citizen of such town of full age, who with them shall constitute the board of health for such town for one year or until their successors are chosen. The said board of health shall appoint some competent physician, not a member of said board, to be the health officer for such town. If in any case a vacancy shall occur in the board of health of any city, village or town, by the death, resignation, inability to act or removal from said city, village or town of any member thereof, and if the proper authorities, by inability, neglect or refusal, fail to fill such vacancy, it shall be the duty of the county judge of the county in which such city, village or town is situated, upon being satisfied that such vacancy should be filled without delay, to appoint in writing a competent person to fill such vacancy for the unexpired term. The written appointment to a board of health made by a county judge under this section shall forthwith be filed in the office of the clerk of the county in which said board of health is located. Notice of the membership and organization of all boards of health in this State and of all changes that may from time to time occur therein shall be given forthwith to the State Board of Health.

Temporary vacancies how filled.

§ 3. The several boards of health now organized in any city, village or town in this State (except in the cities of New York, Brooklyn and Buffalo), and the several boards of health constituted under this act shall have power and it shall be their duty:

Powers and duties of Health Boards.

1. To meet at stated intervals in their respective cities, villages and towns; also, whenever the State Board of Health, or the president and secretary thereof, shall, by notice to the presiding officer of any city, village or town board of health, request him to convene such board to take certain definite proceedings upon matters concerning which the said State Board of Health, or its president and secretary, shall be satisfied that the action recommended by them is necessary for the public good, and is within the jurisdiction of such board of health. Any willful violation of any lawful instruction of said State Board of Health shall be a misdemeanor.

In relation to meetings.

2. To prescribe the powers and duties of the local health officer, who shall act as executive officer of the board; to direct him from time to time in the performance of his duties, and to fix the compensation he shall receive.

In relation to health officer.

3. To guard against the introduction of contagious and infectious disease, by the exercise of proper and vigilant medical inspection and control of all persons and things arriving in such city, village or town from infected places, or which, for any cause, are liable to communicate contagion; to require the isolation of all persons and things infected with or exposed to contagious or infectious diseases, and to provide suitable places for the reception of the same; and, if necessary, to furnish medical treatment and care for sick persons who cannot otherwise be provided for; to prohibit and prevent all intercourse and communication with or use of infected premises, places and things; and to require, and, if necessary, to provide the means for the thorough purification and cleansing of the same before general intercourse therewith, or use thereof, shall be allowed. And it shall be the duty of every such board of health to report to the State Board of Health promptly facts which relate to infectious and epidemic diseases, and every case of small-pox or varioloid occurring within its jurisdiction; and to provide at stated intervals a suitable supply of vaccine virus of a quality or from a source approved by the State Board of Health; and during the existence of an actual epidemic of small-pox, said local board of health shall obtain fresh supplies of said virus at intervals not exceeding one week, and shall at all times provide thorough and safe vaccination for all persons within its jurisdiction who may need the same.

In reference to contagious and infectious diseases.

To provide medical treatment for sick.

To regulate isolation of and intercourse with infected persons and places.

To report to State Board of Health.

To provide for public vaccination.

To receive complaints of inhabitants.

To enter upon premises and places for sanitary examination.

4. To receive and examine into the nature of complaints made by any of the inhabitants concerning nuisances, or causes of danger or injury to life and health within the limits of its jurisdiction; to enter upon or within any place or premises where nuisances or conditions dangerous to life and health are known or believed to exist, and by appointed members or persons to inspect and examine the same; and all owners, agents and occupants shall permit such sanitary examinations; and said board of health shall furnish said owners, agents and occupants a written statement of results or conclusions of such examinations; and every such Board of Health shall have power, and it shall be its duty, to order the suppression and removal of nuisances and conditions detrimental to life and health found to exist within the limits of its jurisdiction.

To supervise and complete the registration of vital statistics.

Cost per record not to exceed fifty cents.

Duty of parents or custodians grooms, clergymen, magistrates, physician and midwife.

Undertaker to procure record of death.

No burial or removal without permit.

Verified transcript of records *prima facie* evidence.

5. To supervise and make complete the registration of all births, marriages and deaths occurring within the limits of its jurisdiction in accordance with the methods and forms prescribed by the State Board of Health, and to secure the prompt forwarding of the certificates of birth, marriage and death to the State Bureau of Vital Statistics after local registration; and in so completing the said registration the cost thereof shall be a charge upon such city, village or town, and shall not exceed fifty cents for each completely verified and registered record of birth, marriage or death. And to secure the completeness of the said registration it shall be the duty of the parents or custodian of every child, and the groom at every marriage, or the clergyman or magistrate performing the ceremony, to secure the return of the record of such birth or marriage to the Board of Health or person designated by them within thirty days from the date of such birth or marriage, and each record shall be duly attested by the physician or midwife (if any) in attendance at such birth, or the clergyman or magistrate officiating at such marriage. And it shall be the duty of the health officer of every such Board of Health to receive and examine and secure the registration of all certificates and records of death and causes of death and findings of coroners' juries, and said Board of Health shall designate the persons who shall grant burial permits for the burial of the dead, and transit permits for the transportation of the dead bodies of persons which are to be carried for burial beyond the limits of the county where the death occurs; and it shall be the duty of the undertaker, sexton or other person having charge of the body of any dead person to procure a record of the death and its probable cause duly certified by the physician in attendance on the deceased during his last illness or by the coroner where an inquest is required by law; and there shall be no burial nor removal of the body of any dead person until said duly certified record shall have been presented to the Board of Health or person designated by them, and until thereupon a permit for burial or transit shall have been obtained. And the said Board of Health shall prescribe sanitary regulations for such burials and removals of the dead. It shall also be the duty of every such Board of Health to provide for obtaining copies of the said registered records of births, marriages and deaths, and for the amount and payment of fees for such copies. Such copies, duly attested by the local registering officer, and verified transcripts from the records preserved in the State Bureau of Vital Statistics shall be admitted in all the courts of this State as *prima facie* evidence

of the facts therein set forth. If in any place in this State, the State Board of Health ascertains that the said registration of births, marriages and deaths is not completely and well made, said State Board shall notify the local Board of Health in such place, that within one month from the date of such notice, said defects and neglect in the records must be amended and prevented. If at the expiration of the time mentioned the said defects and neglect are not overcome and prevented by the said local authorities, it shall be the duty of the said State Board of Health to take control of the said records, and enforce the rules and regulations with reference thereto, and secure their completeness and proper registration within the limit of cost hereinbefore specified, and to continue such control until the said local Board of Health shall satisfy the said State Board of Health that they will actually make the said records and registry complete as required by law. Any person neglecting or refusing to make out or file for registration any record as aforesaid, and any person causing, permitting or assisting in the burial or removal of any dead body, unaccompanied by a permit for such burial or removal, duly issued by the local Board of Health having jurisdiction where the death occurred, and any officer or board that shall neglect or refuse to register and preserve the said records and forward the certificates to the State Bureau of Vital Statistics as above required shall be deemed guilty of a misdemeanor and may be prosecuted in any court of competent jurisdiction.

State Board of Health shall take control to remedy neglects and enforce compliance for a time.

Neglect or refusal to make out or file a record, or the burial or removal of a dead body a misdemeanor.

6. To make, and from time to time to publish, in such manner as to secure early and full publicity thereto, all such orders and regulations as they shall think necessary and proper for the preservation of life and health and the successful operation of this law; and to make, without publication thereof, such orders and regulations in special or individual cases, not of general application, as they may see fit concerning the suppression and removal of nuisances, and concerning all other matters in their judgment detrimental to public health, and to serve copies thereof upon any occupant or occupants and the owner or owners of any premises whereon any such nuisances or other matters aforesaid shall exist, or to post the same in some conspicuous place on such premises.

Orders and regulations to be published.

7. To issue warrants to any constable or police of their respective cities, villages and towns, to apprehend and remove such persons as cannot otherwise be subjected to the orders and regulations by them adopted; and whenever it shall be necessary to do so, to issue their warrant to the sheriff of their respective counties to bring to their aid the power of the county; all which warrants shall be forthwith executed by the officers to whom they shall be directed, who shall possess the like powers and be subject to the like duties in the execution thereof, as if the same had been duly issued out of any court of record in this State.

Power to issue warrants.

8. To employ all such persons as shall be necessary to enable them to carry into effect the orders and regulations they shall have adopted and the powers vested in them by this act, and to fix their compensation.

Employment of agents.

9. To impose penalties for the violation of, or non-compliance with, their orders and regulations, and to maintain actions in any court of competent jurisdiction to collect such penalties, not exceeding one hundred dollars in any one case, or to restrain by injunctions such violations, or otherwise to enforce such orders and regulations.

Board of Health may impose penalties or restrain violations by injunctions.

§ 4. Every person who shall willfully violate or refuse to obey any order or regulation made and published by the Board of Health of any city, village or town in this State, or any order made and served, or posted as aforesaid, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be subject to fine or imprisonment, or both, in the discretion of the court, such fine not to exceed one thousand dollars nor such imprisonment six months. And in any case of non-compliance with any order or regulation which shall have been served or posted, as provided in subdivision six of section three of this act, the said board or its servants or employees may lawfully enter upon any premises to which such order or regulation relates, and suppress or remove the nuisance or other matters in the judgment of said board detrimental to the public health mentioned in such order or regulation, and any other nuisance or matter of the description aforesaid found there existing; and the expense thereof shall be a charge upon the occupant or any or all of the occupants of said premises, or upon the person or persons who have caused or maintained the nuisance or other matter of the description aforesaid, and may be sued for and recovered with costs by said board in the name of such board in any court having jurisdiction. Whenever execution upon any judgment so obtained shall have been returned wholly or in part unsatisfied, said judgment, for the amount so unsatisfied, shall be a lien upon said premises, having preference over all other liens or incumbrances whatsoever. But in order to acquire such lien, such judgment, if in a court not of record, shall first have been docketed in the same place and manner as by law now required to make judgments in such courts liens upon real estate. And whenever any lien upon any premises shall have become fixed as aforesaid, the said board may cause the said premises to be sold at public auction, for a term of time, for the payment and satisfaction of such lien, and the expenses of such sale, giving notice of such sale for twelve weeks successively, once in each week, in one or more newspapers published in the city, incorporated village or town where the premises are situated, as the case may be; or if no newspaper be published in such village or town, then in the newspaper published nearest said premises, and also serving a copy of such notice of sale personally on the owner or agent of said premises, if known, and a resident of said city, village or town, at least fourteen days previous to such sale, or by depositing the same in the post-office, directed to such owner or agent at his place of residence if known, or the nearest post-office thereto, at least twenty-eight days previous to such sale. And the said premises shall be sold to the person who shall offer to take the same for the shortest time, paying the amount remaining unpaid upon such judgment, with interest, and the expenses of such notice and sale. A certificate of such sale, signed by the president and countersigned by the secretary of such board, shall thereupon be made and delivered to the purchaser, and may be recorded in like manner and with like effect as deeds of conveyance of lands, and thereupon the purchaser, his heirs or assigns, shall be entitled to the possession of said premises so sold as aforesaid, and if unoccupied may immediately enter, and if occupied may have remedy against any occupant by action or by summary proceedings as against a tenant holding over after expiration of his term; and in case the costs of such action or proceeding shall not be collected by such purchaser of the defendant therein, the same shall be a lien upon said premises, having the like preference as the lien aforesaid, and the term of the said purchaser shall be extended during

Violating orders of the Board a misdemeanor.

Penalty.

Power to enter upon premises and suppress nuisances.

Unsatisfied judgment a lien upon the premises.

Sale of premises at public auction.

Certificate of sale.

a time bearing the same proportion to the original term as the amount of such cost bears to the amount paid by such purchaser on such sale. And such term shall commence when such purchaser shall have acquired possession. At any time after such sale and within six months after the recording of such certificate as aforesaid, the owner or any lienor or incumbrancer of such premises, or of any part thereof, may redeem by paying to the purchaser the amount paid by him on such sale, and all costs and expenses he may have incurred in any action or proceeding as aforesaid, to obtain possession, with ten per cent interest thereon. If such redemption be made by the owner, the right of the purchaser shall be extinguished ; and if by such lienor or incumbrancer, the amount paid by him to redeem shall be added to his lien or incumbrance, or if he have more than one, to the oldest, and shall thenceforth partake of the nature thereof and be collectible by any remedy adapted thereto.

§ 5. All expenses incurred by the several boards of health in the execution and performance of the duties imposed by this act shall be a charge only on their respective cities, villages and towns ; and shall be audited, levied, collected and paid in the same manner as other city, village and town charges are audited, levied, collected and paid.

Expenses of Boards of Health to be a town, village or city charge, how audited and paid.

§ 6. Whenever any pestilential, or infectious or contagious disease shall exist in any county poor-house in this State, or in the vicinity of any such county poor-house, and the physician of such county poor-house shall certify that such pestilence or disease is likely to endanger the health of the persons supported at such poor-house, the superintendent of such county poor-house shall have power to cause the persons supported at such poor-house, or any of them, to be removed to such other suitable place in the same county as shall be designated by the Board of Health of the city, town or village within which such poor-house shall be situated, there to be maintained and provided for at the expense of the county, with all necessary medical care and attendance, until they shall be safely returned to the county poor-house from which they were taken, or otherwise discharged.

Persons sick of infectious disease may be removed from county poor-house.

§ 7. Any legally organized Board of Health in an incorporated village, which comprises parts of several towns, or less than a whole town, shall have full authority in regard to all matters relating to public health within said village, and such village shall not be subject to the sanitary regulations or health officers of the township or towns within which such village is located ; nor shall the taxable property of any such village, while maintaining its own Board of Health, be subject to taxation for maintaining any town Board or Boards of Health, or for any expenditures authorized by such town boards ; but such expenditures of the town Boards of Health shall be assessed and collected exclusively on property in the town outside of said village. But nothing in this act shall be construed to prevent the boards of health of two or more towns adjacent to each other or of towns and villages therein situated from uniting in a combined sanitary and registration district by the appointment of one health officer and registering officer for such district, whose authority in all matters of general application shall be derived from the several Boards of Health having jurisdiction within such district ; and in special cases, not of general application, arising within the jurisdiction of any such Board of Health the said officers shall derive their authority from such board alone. Such combined districts shall be formed subject to the approval of the State Board of Health.

Village Boards and villages not taxed to support town sanitary improvements, nor towns to support village Boards of Health and their work.

Provision for combined sanitary and registration districts.

§ 8. Any duty prescribed or enjoined by this act upon any local Board of Health, or any member or officer thereof, or upon the common council of any city or any member thereof, or upon the board of trustees of any village or any member thereof, or upon any officer of any city, village or town may be enforced by a mandamus at the instance of the State Board of Health, its president, secretary or any member thereof.

State Board may enforce duty upon local Boards by mandamus.

§ 9. Chapter one hundred and fifty-two of the laws of eighteen hundred and forty-seven, chapter three hundred and twenty four of the laws of eighteen hundred and fifty and the several acts amendatory thereof, chapter five hundred and twelve of the laws of eighteen hundred and eighty, except subdivision thirty-four of section one of said act, and all other acts or parts of acts, general or special, inconsistent with the provisions of this act are hereby repealed.

[No. 53.]

SANITARY REGULATIONS.

Adopted by the Board of Health of——————

SECTION 1. Whatever is dangerous to human life or health; whatever building, or part or cellar thereof, is overcrowded or not provided with adequate means of ingress and egress, or is not sufficiently supported, ventilated, sewered, drained, lighted or cleaned; and whatever renders soil, air-water or food impure or unwholesome, are declared to be nuisances and to be illegal; and every person having aided in creating or contributing to the same, or who may support, continue or retain any of them, shall be deemed guilty of a violation of this ordinance, and shall also be liable for the expense of the abatement or remedy required.

Nuisances defined.

§ 2. No privy-pit, cess-pool or reservoir into which any privy, water-closet, stable, sink or other receptacle of refuse or sewage is drained, shall be constructed or maintained in any situation or in any manner whereby, through leakage or overflow of its contents, it may cause pollution of the soil near or about habitations, or of any well, spring or other source of water used for drinking or culinary purposes, nor shall the overflow from any such reservoir or receptacle be permitted to discharge into any public place or in anywise whereby danger to health may be caused. And every such pit, reservoir or receptacle shall be cleaned and the contents thereof removed at such times and under such precautions as the board of health may prescribe. Violation of any of the provisions of this ordinance shall be punished by a fine of.... ...for each day's continuance of the nuisance after due notice to abate it from an authorized officer.

Privies, cess-pools, etc.

§ 3. All house-sewers or drains for the conveyance of deleterious or offensive matters shall be water-tight, and the plans and methods of their construction shall be subject to the approval of the board of health. In streets or avenues where public sewers are or shall be constructed, the board of health may order house-connections to be made therewith.

Sewers, drains, etc.

§ 4. No house-refuse, offal, garbage, dead animals, decaying vegetable matter, or organic waste-substance of any kind, shall be thrown upon any street, road or public place, and no putrid or decaying animal or vegetable matter shall be kept in any house, cellar or adjoining outbuilding for more than twenty-four hours. Violation of any of the provisions of this ordinance shall be punished by a fine of........

House refuse, garbage, etc.

§ 5. No sunken places shall be filled, nor made land constructed, with any materials containing an admixture of putrescible animal or vegetable matter, under penalty of not less than........nor more than........ for each cart-load, or part thereof, of such materials deposited

Filled-in or made land.

§ 6. No person or company shall erect or maintain any manufactory or place of business dangerous to life or detrimental to health, or where

Noxious trades.

unwholesome, offensive or deleterious odors, gas, smoke, deposit or exhalations are generated, without the permit of the board of health, and all such establishments shall be kept clean and wholesome so as not to be offensive or prejudicial to public health; nor shall any offensive or deleterious waste-substance, gas-tar, sludge, refuse or injurious matter be allowed to accumulate upon the premises or be thrown or allowed to run into any public waters, stream, water-course, street or public place. And every person or company conducting such manufacture or business shall use the best approved and all reasonable means to prevent the escape of smoke, gases and odors, and to protect the health and safety of all operatives employed therein. Any violation of any of the provisions of this ordinance shall be punishable by a fine of not less than ten dollars nor more than one hundred dollars for each offense.

Unwholesome food.

§ 7. No meat, fish, bird, fruit, or vegetables, milk, or any thing for human food or drink, not being then fresh or properly preserved, sound, wholesome and safe for such use; nor any flesh of any animal which died by disease, or which was at the time of its death in a sickly or unwholesome condition; nor the carcass or meat of any calf which was at the date of its death less than four weeks old, or of any lamb which was at the date of its death less than eight weeks old, or of any pig which was at the date of its death less than five weeks old shall be brought within the limits of this.... ...nor offered or held for sale as food therein. Any violation of any of the provisions of this ordinance shall be punishable by a fine of not less than .... and by the seizure and destruction of such unsound, unwholesome, or immature food substances.

Slaughter-houses, markets, etc.

§ 8. No person or persons, without the consent of the board of health, shall build or use any slaughter-house within the limits of this......; and the keeping and slaughtering of all cattle, sheep and swine, and the preparation and keeping of all meat, fish, birds, or other animal food, shall be in the manner best adapted to secure and continue their wholesomeness as food; and every butcher or other person owning, leasing or occupying any place, room or building wherein any cattle, sheep or swine have been or are killed or dressed, and every person being the owner, lessee or occupant of any room or stable wherein any animals are kept, or of any market, public or private, shall cause such place, room, building, stable or market, and their yards and appurtenances, to be thoroughly cleansed and purified, and all offal, blood, fat, garbage, refuse and unwholesome and offensive matter to be removed therefrom at least once in every twenty-four hours after the use thereof for any of the purposes herein referred to, and shall also at all times keep all woodwork, save floors and counters, in any building, place or premises aforesaid thoroughly painted or whitewashed; and the floors of such building, place or premises shall be so constructed as to prevent blood or foul liquids or washings from settling in the earth beneath. Any violation of any of the provisions of this ordinance shall be punished by a fine of........for each day's continuance or repetition of the offense.

Notification of infectious disease.

§ 9. Every householder or head of family in a house wherein any case of infectious disease may occur shall report the same to the board of health or to the health officer within twelve hours from the time of his or her first knowledge of the nature of such disease; and, until instructions are received from the said board or the health officer, shall not permit any clothing or other article which may have been exposed to infection to be removed from the house; nor shall any occupant change his residence elsewhere without the consent of the said board or health officer.

Every physician who may be called to attend a case of infectious disease shall, as soon as he discovers the nature thereof, make a written report specifying the name and residence of the patient, the nature of the disease, and any other facts relating thereto which he may deem important to the public health, and affix the date and sign his name thereto, and he shall hand such report to the householder or head of family as aforesaid, who shall thereupon become responsible for its transmission to the board of health within twelve hours as above provided. The diseases to be thus promptly reported are: Asiatic cholera, yellow fever, typhus and typhoid fevers, small-pox, scarlet fever, measles, and diphtheria. Any violation of any of the provisions of this ordinance shall be punished by a fine of........

Importation of infected persons or things.

§ 10. No person or article liable to propagate a dangerous disease shall be brought within the limits of this........unless by the special permit and direction of the board of health; and any one having knowledge that such person or article has been brought within such limits shall immediately notify the said board thereof. Any violation of any of the provisions of this ordinance shall be punished by a fine of not less than..... ....nor more than ....

Exposure of infected persons or things.

§ 11. No person shall, within the limits of this..........unless by permit of the board of health, carry or remove from one building to another any patient affected with any contagious or infectious disease. Nor shall any person, by any exposure of any individual so affected, or of the body of such individual, or of any article capable of conveying contagion or infection, or by any negligent act connected with the care or custody thereof, or by a needless exposure of himself or herself, cause or contribute to the spread of disease from any such individual or dead body. Any violation of any of the provisions of this ordinance shall be punished by a fine of not less than............

Funerals after infectious diseases.

§ 12. There shall not be a public or church funeral of any person who has died of Asiatic cholera, small-pox, typhus fever, diphtheria, scarlet fever or measles, without the permit of the board of health therefor; and the family of the deceased shall in all such cases limit the attendance to as few as possible, and take all precautions possible to prevent the exposure of other persons to contagion or infection. Any violation of any of the provisions of this ordinance shall be punished by a fine of not less than........

Infectious diseases of animals.

§ 13 No animal affected with an infectious or contagious disease shall be brought or kept within the limits of this........except by the permission of the board of health; and the bodies of animals dead of such disease, or killed on account thereof, shall not be buried within five hundred feet of any residence, nor disposed of otherwise than as the said board or its health officer shall direct. Any violation of any of the provisions of this ordinance shall be punished by a fine of not less than........

Report of marriages and births.

§ 14. It shall be the duty of the groom in every marriage and of the parent or custodian of every child born, to make sure that the prescribed report of such marriage or birth is presented to the board of health or its registering officer within thirty days, under a penalty of..........for failure to do so; and for each ten days of continued neglect to present such report, after the expiration of the first thirty days, an additional penalty of..........shall be incurred.

Certificates of death and burial permits.

§ 15. Every undertaker or other person who may have charge of the funeral of any dead person, shall procure a properly filled-out certificate of the death and its probable cause, in accordance with the form prescribed by the State Board of Health, and shall present the same to the designated officer or member of the board of health, and obtain a burial or transit permit thereupon, at least twenty-four hours before the time appointed for such funeral; and he shall not remove any dead body until such burial or transit permit shall have been procured. Any violation of any of the provisions of this ordinance shall be punished by a fine of not less than........

Sextons, cemetery keepers, etc.

§ 16. Every person who acts as a sexton, or undertaker, or cemetery keeper, within the limits of this .... ..or has the charge or care of any tomb, vault, burying ground or other place for the reception of the dead, or where the bodies of any human beings are deposited, shall so conduct his business and so care for any such place above named, as to avoid detriment or danger to public health; and every person undertaking preparations for the burial of a body dead from contagious or infectious disease as hereinbefore enumerated shall adopt such precautions as the board of health may prescribe to prevent the spread of such disease. Any violation of any of the provisions of this ordinance shall be punished by a fine of not less than........

Coroners' inquests.

§ 17. Before the holding of any inquest within this........the coroner, who may intend to hold such inquest shall notify the board of health or the health officer of the place where the body is; what is reported to have been the cause, place, and date of death; where the body has since been; when and where the proposed inquest is to be held; and, if known, what physician attended the deceased person within forty-eight hours of such decease. And within forty-eight hours after the termination of such inquest such coroner shall cause to be transmitted to the board of health or to the health officer a certificate according to the form prescribed by the State Board of Health, supplying the data therein required to the best of his information and belief. Any violation of any of the provisions of this ordinance shall be punished by a fine of........

Duties and powers of health officer.

§ 18. The health officer is directed and empowered to execute and enforce all sanitary regulations of general obligation now or hereafter to be published by this board; also to enter upon or within any premises where conditions dangerous to the public health are known or believed to exist, and to examine into the nature of complaints made by any of the inhabitants concerning sources of danger or injury to health; and he shall preserve accurate records of his official actions and report the same to the board of health at its next meeting. And whenever in his judgment danger to public health shall arise requiring special regulation not of general application, he shall forthwith notify the president of the board of health, who shall thereupon convene the board to take such action as may be necessary and proper.

Penalties.

§ 19. Every person who willfully violates or refuses to comply with, or who resists any ordinance, order, regulation or resolution of the board of health of this........will be liable to the arrest, action, penalty, fine and punishment provided and declared in chapter 270 of the Laws of 1885, of which notice must be taken.

RECORD OF STILL-BIRTHS.

Date of birth.	Sex.	Color.	Month of pregnancy.	Cause of dead birth (if known).	Name of mother.	Nativity of mother.	Residence.	Name of person making return.	Undertaker.	Place of burial.

MONTHLY BULLETINS

OF THE

NEW YORK STATE BOARD OF HEALTH.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during January, 1885.

[Cities are printed in small capitals, villages in italics and towns in Roman type. The populations preceded by a star (*) are estimated to date; the remainder are from the census of 1880.]

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of—	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DISTRICT:																												
NEW YORK CITY	*1,397,895	2,965	25.46	1,197	43.7	25	1	16	24	0	72	150	22	28	178	64	195.62	532	475	41	137	213	164	261	55	62	209	336
BROOKLYN	*665,602	1,143	20.60	410	35.7	0	1	7	17	0	25	12	0	12	91	7	150.48	149	177	14	70	54	59	110	26	23	24	165
Gravesend	*5,000	5	12.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	1	0	1	1	0	0	0	0
New Lots	*18,000	26	17.33	12	46.16	1	0	0	2	0	0	0	0	0	2	0	192.30	6	7	0	0	0	0	1	1	0	3	3
New Utrecht	4,742	4	10.12	2	50.0	0	0	0	0	0	2	0	0	0	0	0	500.00	0	0	0	0	0	2	0	0	0	0	0
Flatlands	3,127	7	26.86	1	14.3	0	0	0	1	0	1	0	0	0	0	0	285.71	0	1	0	0	0	0	1	0	2	1	0
LONG ISLAND CITY	*21,000	32	18.29	11	34.4	1	0	0	0	0	0	0	0	0	3	0	125.00	6	5	0	2	4	2	3	0	3	1	2
Newtown	*10,000	21	25.20	9	42.9	0	0	0	0	0	0	0	0	0	4	0	190.48	4	3	0	1	1	0	6	0	0	1	1
Oyster Bay	*12,000	16	16.00	1	6.2	0	0	0	0	0	0	0	0	0	0	1	62.30	2	2	0	0	0	1	0	1	0	2	7
Hempstead	18,160	8	4.00	1	16.7	0	0	0	1	0	0	2	0	0	0	0	166.66	0	0	0	0	1	0	1	0	0	3	0
North Hempstead	*7,000	10	17.14	5	50.0	1	0	0	0	0	0	0	0	0	1	0	400.00	2	2	0	1	0	0	0	0	0	1	0
Sag Harbor	*3,000	3	12.00	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	0	0	0	0	0	1
Babylon	4,739	9	22.79	2	22.2	0	0	0	0	0	0	0	0	0	0	0	....	2	0	1	0	1	1	4	0	0	0	0
Southold	7,267	2	3.43	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	0	1
Southampton	6,352	9	17.00	1	11.1	0	0	2	0	0	1	0	0	0	0	0	333.33	1	0	0	0	0	0	4	0	0	1	0
Northfield	7,014	8	13.80	2	25.0	0	0	0	0	0	0	0	0	0	1	1	250.00	2	2	0	0	0	1	0	1	0	0	0
Westfield	5,289	7	15.88	1	14.3	0	0	0	0	0	0	0	1	0	0	0	142.86	1	2	0	0	0	0	1	0	0	0	2
YONKERS	*22,000	37	20.18	11	29.7	0	0	0	0	0	4	0	0	0	0	1	133.33	8	7	0	0	0	0	3	1	1	2	10
Westchester	*6,900	10	17.40	1	10.0	1	0	0	0	0	0	0	0	0	0	0	100.00	3	1	0	1	0	2	0	0	2	0	0
Rye	*7,500	4	6.40	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	2	1	0	0	1	0
Sing Sing	*6,500	13	24.00	1	7.7	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	2	3	5	0	0	0	0
Rest of district	....	32	....	8	25.0	0	0	0	0	0	0	0	0	0	4	2	187.50	7	6	0	1	0	2	4	1	1	2	2
HUDSON VALLEY DIST.:																												
ALBANY	*99,495	162	19 54	32	20.0	1	0	6	0	0	0	0	0	0	11	4	135.80	19	34	0	12	6	14	29	5	4	5	12
COHOES	*20,000	38	22.80	16	42.10	1	0	2	2	0	1	1	0	0	3	0	363.16	8	5	0	3	0	4	4	0	0	2	2
West Troy	*13,000	16	14.84	7	43.8	0	0	0	0	0	1	0	0	0	1	0	125.00	6	2	0	0	0	1	2	0	0	1	2
Hoosick Falls	*4,000	2	6.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	0	0	0

Troy	*60,000	84	16.80	24	28.6	0	0	3	1	0	0	0	0	0	9	8	154.76	15	13	1	3	2	11	18	2	0	2	4
Lansingburgh	*8,500	27	39.53	8	28.6	0	0	1	0	0	3	0	0	0	8	1	464.28	0	4	0	0	2	3	2	0	1	2	0
Green Island	*5,000	10	24.00	2	20.0	0	0	0	0	0	0	0	0	0	0	0	....	4	3	0	0	1	0	0	0	1	0	1
Greenbush	*7,000	12	20.57	4	33.0	0	0	0	0	0	0	0	0	0	0	0	....	3	0	0	3	0	0	1	0	3	1	1
Catskill	*4,500	17	45.33	8	47.0	0	0	0	0	0	1	0	0	0	4	1	352.94	2	4	0	2	0	1	0	0	2	0	0
Hudson	*10,000	15	18.00	6	40.0	0	0	0	0	0	0	0	0	0	3	0	200.00	0	4	0	0	2	1	2	0	0	0	3
Kingston	20,000	54	32.40	15	27.8	1	0	9	3	0	0	0	0	4	7	1	462.96	4	10	3	2	2	5	1	0	0	0	2
Wawarsing	8,547	9	12.70	1	11.1	0	0	1	0	0	0	0	0	0	1	0	222.22	0	1	1	0	1	2	1	0	0	1	0
Rosendale	5,000	1	2.40	1	100.0	0	0	0	0	0	0	0	0	0	1	0	1000.00	0	0	0	0	0	0	0	0	0	0	0
Marbletown	4,000	6	18.00	0	......	0	0	2	0	0	0	0	0	0	0	0	333.33	1	0	0	0	0	0	0	0	1	1	1
Poughkeepsie	20,207	29	17.25	5	17 2	0	0	0	0	0	0	0	0	0	3	0	103.45	2	7	1	3	2	2	2	0	2	2	3
Fishkill	10,732	20	22.37	5	25.0	0	0	0	0	0	0	2	1	0	0	0	150.00	9	2	0	0	0	1	1	1	0	0	3
Wappinger's Falls	*5,000	4	9.60	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	1	0	2
Newburgh	*20,000	25	15.00	3	12.0	0	0	1	0	0	0	0	0	0	0	0	40.00	5	6	1	3	2	2	1	1	0	1	2
Middletown	*10,000	15	18.00	4	26.6	0	0	0	0	0	0	0	0	0	0	0	....	2	6	0	1	0	1	1	1	0	0	3
Port Jervis	*8,800	8	11.00	2	25.0	0	0	0	0	0	0	0	0	0	1	0	125.00	0	1	0	0	1	0	2	0	1	1	1
Goshen	4,387	5	13.44	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	3	1	0	0	0	0	1	0	0	0	0
Orangetown	8,000	11	18.00	5	41.7	0	0	0	0	0	0	0	0	0	0	0	....	4	2	2	0	1	1	1	0	0	0	0
Ramapo	5,000	5	12.00	0	. ....	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	1	1	1	0	0	0	0
Haverstraw	7,000	12	20.57	6	50.0	0	0	0	0	0	0	0	0	0	0	0	....	2	1	0	0	0	0	5	1	1	0	2
Esopus	4,736	11	27.85	4	36.4	0	0	0	1	0	0	0	0	1	1	0	272.73	2	2	0	0	0	1	1	0	0	0	2
Saugerties	*4,000	8	24.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	2	3	0	0	1	0	2	0	0	0	0
Rest of district	....	173	....	33	19.0	2	0	3	2	0	3	2	1	3	5	1	127.16	42	17	4	6	7	10	29	2	7	16	11
ADIRONDACK & NORTHERN DISTRICT:																												
Greenwich	3,861	3	10.00	0	......	0	0	0	0	0	0	1	0	0	0	0	333.33	0	0	0	0	0	0	0	0	0	0	2
Sandy Hill	2,800	3	12.86	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	0	0	0	1	0
Fort Ann	3,262	4	11.04	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	1	1	1	0	0	0	0
Fort Edward	4,680	5	12.82	0	......	0	0	0	0	0	0	0	0	0	1	0	200.00	1	1	0	1	0	0	0	0	0	1	0
Queensbury	*10,000	17	24.00	11	52.0	1	0	1	0	0	0	0	0	5	0	0	350.00	0	3	0	0	1	0	5	0	0	0	1
Ticonderoga	3,304	3	10.91	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	1	0	0	0	1
Malone	7,908	9	13.67	3	33.3	0	0	0	0	0	0	0	0	0	3	1	444.44	3	0	0	0	0	0	1	0	0	0	1
Ogdensburg	*10,400	10	11.52	3	30.0	0	0	0	0	0	0	0	0	0	2	0	200.00	2	2	0	1	0	1	1	0	0	0	1
Gouverneur	*5,000	8	19.20	4	50.0	0	0	0	0	0	2	0	0	0	1	0	375.00	0	0	0	0	1	1	2	0	0	0	1
Adams	3,302	12	43.14	3	25.0	0	0	0	1	0	0	0	0	0	3	0	333.33	4	1	0	0	0	0	1	0	2	0	0
Ellisburgh	4,812	3	7.50	1	33.3	0	0	0	0	0	0	0	0	0	0	1	333.33	0	1	0	0	0	0	0	1	0	0	0
Watertown	*13,000	27	24.92	3	11.1	1	0	1	0	0	0	0	0	0	1	1	118.15	5	6	0	0	2	1	3	1	0	4	1
Rest of district	....	101	....	13	11.7	0	0	2	0	0	1	0	0	0	16	3	198.20	14	17	3	8	4	5	5	0	1	20	2
MOHAWK VALLEY DIST.:																												
Schenectady	13,675	15	13.16	3	20.0	0	0	0	0	0	0	0	0	0	0	0	....	3	5	0	0	0	2	1	0	1	2	1
Middleburgh	3,376	4	14.22	1	25.0	1	0	0	0	0	0	0	0	6	0	0	250.00	2	1	0	0	0	0	0	0	0	0	0
Cobleskill	3,371	2	7.08	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	2	0
Schoharie	3,350	4	14.32	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	1	1	0	1	0
Amsterdam	*13,000	13	13.00	4	30.7	0	0	1	0	0	1	0	0	0	2	0	307.69	1	4	0	0	0	1	1	1	0	0	1
Johnstown	*6,000	5	10.00	1	20.0	0	0	1	0	0	0	0	0	0	0	0	200.00	2	1	0	0	0	0	0	0	0	0	1
Gloversville	*8,000	4	6.00	1	25.0	0	0	0	0	0	0	0	1	0	0	0	250.00	1	0	0	0	1	0	1	0	0	0	0
Little Falls	*7,300	5	13.33	1	20.0	0	0	0	0	0	0	0	0	1	0	0	200.00	1	0	0	0	1	1	0	0	0	1	0
Ilion	*4,500	3	8.00	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	1	1	1
Utica	*40,000	78	22.50	21	28.0	0	0	3	0	0	0	0	0	0	12	5	266.67	9	11	7	5	2	5	7	3	3	6	9
Rome	12,045	15	15.00	1	6.3	1	0	0	0	0	0	0	0	0	0	0	66.67	4	4	0	1	0	0	1	0	2	1	1
Boonville	4,000	10	30.00	4	40.0	0	0	0	0	0	0	0	0	0	6	0	600.00	1	1	0	0	0	0	0	0	0	1	1
Camden	3,400	6	21.18	2	33.3	0	0	0	0	0	0	0	0	0	2	0	333.34	0	1	0	1	0	0	1	0	0	0	1
Waterford	4,226	8	22.19	4	50.0	0	0	0	0	0	0	0	0	0	2	0	250.00	0	0	0	1	0	0	4	1	0	0	0
Milton	5,565	8	17.25	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	0	3	0	0	0	0	0	0	1	3	1

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MOHAWK VALLEY DIST.:																												
Saratoga Springs	*10,000	21	25.20	4	19.0	0	0	0	0	0	0	0	0	0	0	1	47.62	2	3	0	2	0	4	6	1	0	0	2
Rest of district	....	77	....	8	10.4	0	0	3	1	0	0	1	0	0	4	0	116.88	12	16	1	2	4	3	8	5	0	8	9
SOUTHERN TIER DIST.:																												
BINGHAMTON	*20,000	29	17.40	7	24.1	0	0	0	1	0	2	0	1	0	0	0	137.93	3	3	1	3	2	3	6	1	1	1	1
Candor	4,323	8	22.20	2	25.0	0	0	0	0	0	0	0	0	0	0	0	....	3	1	0	0	0	1	1	1	0	1	0
ELMIRA......................	*25,000	36	17.28	8	22.2	0	0	1	0	0	0	0	0	0	1	1	83.33	4	9	0	3	0	3	8	3	1	0	2
Horseheads	*3,500	5	17.14	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	2	1	1	1	0
Jamestown	*12,000	14	14.00	2	14.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	2	2	2	4	2	1	1	0	0
Westfield	3,500	4	13.71	0	......	0	0	1	0	0	0	0	0	0	0	0	250.00	0	0	0	0	0	0	0	0	0	3	0
Hornellsville.............	*10,000	12	14.40	1	8.33	0	0	0	1	0	0	0	0	0	1	0	166.67	2	1	0	3	0	0	1	0	2	0	1
Bath	7,400	8	13.00	2	25.0	0	0	0	0	0	0	0	0	0	1	0	125.00	3	1	0	0	0	1	1	0	0	1	0
Rest of district	....	23	....	4	17.4	0	0	0	0	0	2	0	0	0	1	0	130.43	9	0	0	1	0	1	1	2	0	2	4
EAST CENTRAL DIST.:																												
Walton	3,541	6	20.30	1	16.7	0	0	0	0	0	0	0	0	0	1	0	166.67	2	1	0	0	0	1	0	0	0	0	1
Delhi.........................	3,000	4	16.00	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	1	0	0	0	0	0	1
Cooperstown	*3,000	5	20.00	3	60.0	0	0	0	0	0	0	0	0	0	0	1	200.00	2	0	0	1	0	1	0	0	0	0	0
Oneonta......................	*5,000	12	28.80	2	16.6	0	0	0	0	0	0	0	0	0	0	0	....	3	1	1	0	0	2	3	1	0	0	1
Worcester	*3,000	2	8.00	1	50.0	0	0	0	0	0	0	0	0	0	1	0	500.00	0	1	0	0	0	0	0	0	0	0	0
Brookfield	3,685	7	22.75	0	.....	0	0	0	0	0	0	1	0	0	0	0	142.86	3	0	0	0	1	0	0	0	0	2	0
Norwich	5,755	7	14.70	2	28.6	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	0	1	0	1	1	0	0	0
SYRACUSE	*65,000	90	16.80	22	24.2	3	0	1	1	0	0	0	0	0	4	0	98.90	16	14	1	7	1	12	7	2	4	2	15
Geddes	7,000	3	5.14	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	1	0	0	0	0	0	0	2	0
Salina........................	*3,000	6	20.00	2	40.0	0	0	1	0	0	0	0	0	0	0	0	200.00	1	1	0	2	0	0	0	0	0	1	0
Skaneateles	*5,000	3	7.20	1	33.3	0	0	0	0	0	0	0	0	0	0	1	333.33	0	0	0	0	0	1	1	0	0	0	0
Homer	*3,500	4	15.14	0	. ...	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	1	0	0	1	0	0
Rest of district	....	69	....	11	16.2	0	0	1	2	0	1	0	0	0	7	1	176.47	10	5	3	4	6	2	6	4	2	12	3
WEST CENTRAL DIST.:																												
AUBURN	*26,000	26	12.00	5	19.2	0	0	2	0	0	0	0	0	0	1	0	115 38	4	4	0	2	2	2	5	0	1	1	2
Groton	3,450	2	6.95	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	1	0	0
Seneca Falls	6,853	5	8.78	2	40.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	2	0	0	2	0	0	0	0
Ithaca	11,198	9	9.65	3	33.3	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	2	2	2	0	0	1	1

Waterloo	*4,500	3	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	1	0	1
Hector	5,025	3	7.20	2	66.6	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	1	0	1	0	0
Canandaigua	*6,300	10	19.05	2	20.0	0	0	0	0	0	0	0	0	0	0	0	....	4	2	0	0	0	2	2	0	0	0	0
Manchester	*4,000	3	9.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	2	0
Phelps	*7,000	9	15.43	2	22.2	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	2	1	1	1	2
Geneva	*6,000	11	22.00	1	10.0	0	0	0	0	0	0	0	0	0	0	0	....	1	3	1	0	0	2	2	0	0	2	0
Penn Yan	*4,500	6	16.00	1	16.6	1	0	1	0	0	0	0	0	0	0	0	333.33	0	0	0	0	0	2	1	1	0	0	0
Lima	*2,800	2	8.57	1	50.0	0	0	0	0	0	0	0	0	0	1	0	500.00	0	0	0	0	0	0	0	0	0	1	0
Rest of district	....	81	....	11	13.6	0	0	2	0	0	1	0	0	1	2	1	86.42	8	15	0	6	2	10	9	3	7	10	4
LAKE ONTARIO & WESTERN DISTRICT:																												
OSWEGO	*24,000	31	15.50	11	35.5	0	0	1	0	0	1	2	0	2	0	0	193.55	5	3	0	1	2	3	3	1	3	2	2
Lyons	*6,000	21	43.00	4	17.4	0	0	2	0	0	0	0	0	0	0	0	95.24	5	3	0	0	0	1	5	1	1	3	0
Arcadia	5,702	7	14.74	1	14.3	0	0	0	0	0	0	0	0	0	0	1	142.86	0	1	0	0	0	0	3	0	0	1	1
Palmyra	*4,800	5	12.50	0	......	0	0	0	0	0	0	0	0	0	0	0	....	3	1	0	0	0	0	1	0	0	0	0
Wolcott	3,753	5	15.10	1	20.0	0	0	0	0	0	0	1	0	0	0	0	200.00	2	0	0	0	0	0	0	0	0	1	1
ROCHESTER	*101,000	180	21.38	58	32.2	0	0	8	1	0	1	0	2	0	22	0	188.89	24	22	3	8	11	6	34	5	3	8	22
Sweden	5,736	5	10.46	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	1	0	0	0	2	0
Greece	*5,000	3	7.20	0	......	0	0	0	0	0	1	0	0	0	0	0	333.33	0	0	0	0	0	0	0	0	0	2	0
Mendon	3,200	4	15.00	1	25.0	0	0	0	0	0	0	0	0	0	1	1	500.00	0	2	0	0	0	0	0	0	0	0	0
Brighton	3,736	8	25.69	1	12.5	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	1	3	0	1	1	0	0	0
Ogden	*3,000	5	20.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	2	1	0	0	0	0
Albion	5,147	3	7.00	0	......	0	0	1	0	0	0	0	0	0	0	0	333.33	0	0	0	0	1	0	1	0	0	0	0
LOCKPORT	*16,000	18	13.50	0	......	0	0	0	0	0	0	0	0	1	0	0	55.56	4	6	0	0	0	2	0	1	0	4	0
Tonawanda	4,900	10	24.50	3	30.0	0	0	2	0	0	0	0	0	0	0	0	200.00	0	3	0	1	0	0	1	0	0	1	2
Hamburg	3,235	3	11 13	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	2	0	0	0
Rest of district	....	91	....	10	11.3	0	0	3	2	0	0	2	0	0	2	1	113.64	11	9	0	8	8	9	9	2	4	16	5
Totals for the State.	....	6,571	....	2,163	32.95	42	2	92	64	0	127	177	29	58	443	104	111.20	1,078	1,028	93	329	371	404	691	148	165	425	701

REMARKS.— The total reported mortality for the month is 6,571, the percentage of infant mortality being 32.95. From croup and diphtheria, the percentage of mortality is 6.8; from consumption, 15.8; from other respiratory diseases, 16.4; from typhoid fever, 1.4; from all zymotic diseases, 11.12. Attention is called to the addition in the table of a column showing the rate per thousand of deaths from zymotic diseases to deaths from all causes in each locality; in estimating the significance of this list, the populations must be considered, although these are now too inexact to base a ratio of these diseases upon. The reports of a number of localities, some of which have been already mentioned, are still too imperfect to be taken as an exhibit of their heathfulness compared with other communities which send full returns; but material improvement has been secured since the publication of this Bulletin was commenced.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during February, 1885.

	Population.	*Total number of deaths.	Representing annual death rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DISTRICT:																												
NEW YORK CITY	*1,397,395	3,066	26.33	1,249	40.7	18	1	11	39	0	73	119	16	27	209	49	183.30	666	450	33	122	186	182	281	68	103	224	189
BROOKLYN	*665,602	1,167	21.04	453	38.8	0	0	3	12	0	30	17	11	17	79	20	161.96	286	165	28	46	65	58	109	16	22	18	165
Gravesend	*5,090	6	14.40	3	50.0	0	0	1	0	0	0	0	0	0	0	0	166.67	1	0	0	1	1	0	1	0	0	0	1
New Lots	*18,000	31	20.06	20	64.51	1	0	0	2	0	0	1	0	0	2	0	193.55	8	3	0	4	0	3	1	0	2	0	4
New Utrecht	4,742	11	28.00	2	18.2	0	0	0	0	0	0	0	0	0	0	0	....	3	2	0	0	0	2	3	0	0	1	0
Flatlands	3,127	3	11.51	1	33.3	0	0	0	1	0	0	0	0	0	0	1	333.33	0	0	0	0	0	0	1	0	0	0	0
LONG ISLAND CITY	*21,000	43	24.57	15	34.9	0	0	0	0	0	0	0	1	0	5	1	162.79	17	0	1	1	0	7	8	1	0	1	0
Newtown	*10,000	21	25.20	4	19.0	0	0	0	1	0	0	0	0	0	3	0	190.46	5	1	0	1	0	2	3	0	2	1	2
Oyster Bay	*12,000	16	16.00	0	......	0	0	2	0	0	0	0	0	0	0	0	125.00	3	5	1	0	1	0	0	0	0	1	3
Hempstead	18,160	21	13.87	11	52.4	0	0	0	1	0	3	2	0	0	2	0	380.05	4	3	0	1	1	0	1	0	0	1	2
North Hempstead	*7,000	11	18.86	3	33.3	0	0	0	0	0	0	1	0	0	0	0	90.90	3	1	0	1	0	1	1	1	1	1	0
Babylon	4,739	8	20.25	2	25.0	0	0	0	0	0	0	0	0	0	0	0	....	3	3	0	0	0	0	2	0	0	0	0
Southold	7,267	13	21.46	7	53.8	0	0	0	0	0	0	0	0	1	0	0	76.92	6	3	0	0	0	2	0	0	0	0	1
Southampton	6,352	7	13.21	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	1	2	0	0	1	1
Northfield	7,014	9	15.43	0	. ....	0	0	0	0	0	0	0	0	0	1	0	111.11	4	0	0	0	0	2	0	0	0	2	0
Westfield	5,289	7	15.88	1	14.3	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	0	0	1	1	1	1	0
YONKERS	*22,000	22	12.00	7	31.8	0	0	0	0	0	1	0	0	0	1	0	90.90	7	3	1	0	1	1	2	1	1	1	[illegible]
Westchester	*6,900	9	15.66	2	16.7	0	0	0	0	0	1	0	0	0	0	0	111.11	2	0	0	0	0	0	0	2	2	1	1
Rye	*7,500	5	7.07	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	1	1	1	0	0	1	0
Sing Sing	*6,500	13	24.00	2	15.3	0	0	0	0	0	0	0	0	0	0	1	76.92	1	3	0	1	0	1	2	0	0	2	2
Rest of district	....	29	....	3	......	0	0	0	0	0	1	0	1	0	2	0	....	4	9	1	0	0	5	5	0	0	1	0
HUDSON VALLEY DIST.:																												
ALBANY	*99,435	155	18.71	39	25.2	0	0	1	0	0	2	1	0	0	7	0	70.97	22	31	2	16	2	16	22	5	5	8	15
COHOES	*20,000	18	10.80	7	38.9	0	0	0	0	0	0	0	0	0	0	0	....	3	5	0	0	0	0	2	1	2	1	4
West Troy	*13,000	24	22.22	8	33.3	0	0	0	0	0	0	0	0	0	0	0	....	9	1	1	1	0	2	5	0	0	4	1
Hoosac Falls	*4,000	5	15.00	2	40.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	2	0	0	1	1
TROY	*60,000	103	20.60	25	24.5	0	0	1	0	0	2	0	0	0	8	1	116.50	10	20	1	7	6	9	30	2	3	3	0
Lansingburgh	*8,500	19	26.82	5	26.2	0	0	0	0	0	0	0	0	0	6	0	315.62	3	2	0	0	3	3	1	0	0	1	0
Green Island	*5,000	2	4.80	2	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	1	0	1
Greenbush	*7,000	10	17.14	5	50.0	3	0	0	0	0	0	0	0	0	0	0	300.00	2	1	0	0	0	1	1	0	1	1	0

Catskill	*4,500	9	24.00	3	33.3	0	0	0	0	0	0	0	0	0	1	1	......	0	1	0	1	0	0	3	1	0	0	1
HUDSON	*10,000	12	14.40	3	25.0	0	0	1	0	0	0	0	0	0	0	1	166.67	3	1	0	1	1	0	1	1	0	1	1
KINGSTON	20,000	37	22.20	10	27.0	3	0	7	4	0	0	0	0	2	2	0	486.49	7	1	2	3	1	3	1	0	0	1	0
Wawarsing	8,547	1	1.40	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	0
Rosendale	5,000	5	12.00	4	80.0	0	0	1	0	0	0	0	0	0	1	1	600.00	0	0	1	0	0	2	0	0	0	0	0
Marbletown	4,000	7	21.00	0	......	0	0	0	0	0	0	0	0	0	0	1	142.86	1	1	0	0	0	0	3	0	1	0	0
POUGHKEEPSIE	20,207	29	17.25	3	10.3	0	0	0	0	0	0	0	0	0	0	0	....	6	5	0	2	1	0	3	2	1	6	3
Fishkill	10,732	18	20.12	4	22.2	0	0	0	0	0	0	0	0	0	0	0	....	4	5	0	0	1	3	1	0	1	0	3
Wappinger's Falls	*5,000	9	21.60	1	11.1	0	0	0	0	0	0	0	0	0	0	0	....	1	3	0	0	0	0	4	0	0	1	0
NEWBURGH	*20,000	24	14.40	7	29.2	0	0	0	0	0	0	0	0	0	0	0	....	5	5	0	2	3	2	6	0	0	1	0
Middletown	*10,000	15	18.00	6	40.0	0	0	0	0	0	0	0	0	0	2	0	133.33	2	2	1	3	1	0	2	0	0	1	1
Port Jervis	*10,000	9	10.80	2	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	4	0	0	1	1	1	0	0	1	1
Goshen	4,387	12	32.82	2	16.7	0	0	0	1	0	0	0	0	0	2	0	250.00	2	0	0	3	0	0	1	0	0	2	1
Warwick	5,700	6	12.63	3	50.0	0	0	0	0	0	1	0	0	0	0	1	500.00	0	1	0	1	0	0	1	0	0	0	1
Ramapo	5,000	9	21.60	3	33.3	0	0	0	0	0	0	0	0	0	0	0	....	4	0	0	0	0	1	2	0	0	2	0
Haverstraw	7,000	10	17.14	4	40.0	0	0	1	0	0	0	0	0	0	1	0	200.00	1	1	0	1	0	0	3	0	0	0	2
Esopus	4,736	4	10.13	1	25.0	0	0	1	0	0	0	0	0	0	0	0	250.00	1	1	0	1	0	0	0	0	0	0	0
Rest of district	....	127	....	23	......	0	0	1	0	0	0	1	1	0	8	1	....	22	16	1	10	8	13	23	2	3	9	8
ADIRONDACK & NORTHERN DISTRICT:																												
Greenwich	3,861	5	15.54	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	1	0	2	2
Fort Ann	3,262	2	7.36	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	0	0	0	0	0
Fort Edward	4,680	8	20.51	1	12.5	0	0	0	0	0	0	0	0	0	0	0	....	1	4	0	0	1	2	0	0	0	0	0
Queensbury	*10,000	18	21.80	8	44.4	0	0	0	0	0	0	0	0	1	0	0	55.55	7	2	0	1	1	1	3	0	1	0	1
Crown Point	4,287	5	12.82	0	......	0	0	1	0	0	0	0	0	0	0	0	200.00	1	1	0	0	0	0	0	1	0	0	1
Malone	7,908	4	6.08	1	25.0	0	0	0	0	0	0	0	0	0	1	0	250.00	1	2	0	0	0	0	0	0	0	0	0
OGDENSBURGH	*10,400	17	19.61	8	47.1	1	0	0	0	0	0	0	0	0	3	1	294.12	4	4	0	1	0	0	1	0	0	0	2
Adams	3,302	5	18.18	1	20.0	0	0	0	0	6	0	0	0	0	1	0	200.00	1	1	0	0	0	0	1	0	0	1	0
Ellisburgh	4,812	7	17.50	2	28.6	0	0	0	0	0	0	0	0	0	0	0	....	4	1	0	0	0	2	0	0	0	0	0
WATERTOWN	*13,000	12	11.08	3	25.0	0	0	0	0	0	0	0	0	0	0	1	83.33	2	1	0	1	1	2	2	0	0	1	1
Cape Vincent	3,143	4	15.27	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	1	0	0	0	0	1	0
Rest of district	....	118	....	39	32.2	0	0	3	0	0	2	0	0	0	16	0	177.96	25	13	2	6	3	13	5	2	3	16	9
MOHAWK VALLEY DIST:																												
SCHENECTADY	*15,000	16	12.80	4	25.0	1	0	1	0	0	0	0	0	0	0	0	125.00	2	2	0	0	2	2	1	0	0	2	3
Middleburgh	3,376	4	14.20	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	0	3
Cobleskill	3,371	5	17.79	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	3	0	1	0	0
Schoharie	3,350	1	3.58	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	0	0
Amsterdam	*13,000	27	25.00	10	37.0	1	0	0	0	0	0	4	0	1	0	0	407.40	5	6	0	2	1	1	1	2	0	0	3
Johnstown	*6,000	4	8.00	1	25.0	0	0	0	0	0	0	0	0	0	0	1	250.00	0	0	0	0	1	0	0	1	0	1	0
Gloversville	*8,000	11	16.50	3	......	0	0	0	0	0	0	1	0	0	0	0	90.90	3	0	1	1	0	1	3	1	0	0	0
Little Falls	*7,300	7	11.51	1	14.3	0	0	0	0	0	0	0	0	0	1	0	142.86	1	1	0	0	0	1	2	1	0	0	0
Ilion	*4,500	4	10.67	2	50.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	1	0	0	1	0	0	0	0
UTICA	*40,000	59	17.70	18	30.5	0	0	0	1	0	0	0	1	0	8	1	186.41	10	9	1	4	1	0	12	2	0	4	5
ROME	12,045	19	19.00	4	21.0	2	0	0	0	0	0	1	0	0	0	0	157.90	2	4	0	0	1	0	1	1	0	4	3
Boonville	4,000	4	12.00	3	75.0	0	0	0	0	0	0	3	0	0	0	0	750.00	0	0	0	0	0	0	1	0	0	0	0
Camden	3,400	3	10.59	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	1	0	0	1
Waterford	4,326	10	27.97	4	40.0	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	2	0	3	1	0	0	1	1
Milton	5,565	9	19.41	1	11.1	0	0	0	0	0	0	0	0	0	1	0	111.11	4	1	0	0	1	0	1	0	0	0	1
Saratoga Springs	*10,000	24	28.80	5	20.8	0	0	0	0	0	0	0	1	0	1	0	....	6	3	0	2	1	1	2	1	0	4	2
Rest of district	....	72	....	12	16.9	1	0	2	0	0	0	0	0	0	1	0	56.34	12	2	1	2	3	7	14	1	2	16	8
SOUTHERN TIER DIST:																												
BINGHAMTON	*20,000	34	20.04	9	26.5	0	0	1	1	0	0	1	0	0	1	0	117.65	8	2	1	1	0	5	3	1	3	1	5
Candor	4,323	5	13.88	0	......	0	0	0	0	0	0	1	0	0	0	0	200.00	1	0	0	0	0	0	1	0	0	1	1

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
SOUTHERN TIER DIST:																												
ELMIRA	*25,000	37	17.76	11	29.7	0	0	0	0	0	4	0	0	0	0	0	108.11	3	4	0	1	0	4	6	4	3	3	5
Horseheads	*3,500	3	10.29	2	66.7	0	0	0	0	0	0	0	0	0	1	0	333.33	1	0	0	0	0	0	0	0	0	0	1
Hornellsville	*10,000	18	21.60	5	27.8	1	0	0	0	0	0	0	0	0	0	0	52.78	7	1	1	4	0	1	1	1	0	0	1
Bath	7,400	9	14.60	1	11.1	0	0	0	0	0	0	0	0	0	0	0	......	1	3	0	0	0	0	1	0	1	2	1
Olean	8,000	7	10.50	4	57.1	0	0	0	0	0	1	0	0	0	1	0	285.71	1	0	0	0	0	0	2	0	0	2	0
Jamestown	*12,000	12	12.00	5	41.7	0	0	0	0	0	0	0	1	0	0	0	83.33	2	0	0	2	0	3	1	0	0	1	2
Westfield	3,500	4	13.72	0	......	0	0	1	0	0	0	0	0	0	0	0	250.00	0	0	0	0	0	0	3	0	0	0	0
Rest of district	......	24	......	3	12.5	0	0	0	0	0	0	0	0	0	0	1	......	3	2	1	0	2	4	2	0	0	6	4
EAST CENTRAL DIST:																												
Walton	3,541	4	13.55	1	25.0	0	0	0	0	0	0	0	0	0	0	0	......	0	1	0	0	0	0	1	1	1	0	0
Delhi	3,000	4	16.00	0	......	0	0	0	0	0	0	0	0	0	0	0	......	0	1	0	0	0	1	1	0	0	1	0
Liberty	3,209	6	22.50	2	33.3	0	0	0	0	0	0	0	0	0	0	0	......	2	0	0	0	1	0	0	0	0	2	1
Cooperstown	*3,000	3	12.00	1	33.3	0	0	0	0	0	0	0	0	0	0	0	......	1	0	0	0	0	2	0	0	0	0	0
Oneonta	*7,000	9	15.43	3	33.3	0	0	0	0	0	0	0	0	0	0	1	111.11	1	1	0	1	1	1	2	0	0	0	1
Worcester	*3,000	3	12 00	1	33.3	0	0	0	0	0	0	0	0	0	0	0	......	0	0	0	0	0	0	2	0	0	0	1
Brookfield	3,685	2	6.51	1	50.0	0	0	0	0	0	0	0	0	0	0	0	......	1	0	0	0	0	0	1	0	0	0	0
Norwich	5,755	3	6.25	0	......	0	0	0	0	0	0	0	0	0	0	0	......	1	0	0	0	0	0	0	0	0	1	1
SYRACUSE	*65,000	89	16.43	17	19.1	3	0	1	0	0	0	0	0	0	9	0	146.07	18	14	0	4	3	2	9	3	1	6	15
Geddes	7,000	2	3.43	1	50.0	0	0	0	0	0	0	0	0	0	1	0	500.00	0	1	0	0	0	0	0	0	0	0	0
Homer	3,500	4	13.71	0	......	0	0	0	0	0	0	0	0	0	0	0	......	0	1	1	1	0	0	0	0	0	0	1
Rest of district	......	66	......	10	15.2	1	0	1	0	0	0	0	2	0	3	0	106.06	14	7	2	5	0	3	7	2	3	8	8
WEST CENTRAL DIST:																												
AUBURN	*26,000	32	14.77	7	21.9	0	0	0	0	0	0	0	0	0	1	0	31.25	10	5	0	3	0	1	6	1	2	2	1
Groton	3,450	7	24.35	0	......	0	0	0	0	0	0	0	0	0	0	0	......	0	1	0	1	1	0	1	0	0	3	0
Ithaca	11,198	14	15 00	4	28.6	1	0	0	2	0	0	0	0	0	0	0	211.29	8	0	0	0	0	2	0	0	0	0	1
Fayette	3,316	3	10.91	0	......	0	0	0	0	0	0	0	0	0	0	0	......	0	0	0	0	0	0	2	0	0	1	0
Waterloo	*5,000	8	19.20	3	37.5	0	0	0	0	0	0	0	0	0	0	1	125.00	0	0	1	0	0	1	2	0	1	0	2
Seneca Falls	6,853	17	29.76	5	29.4	0	0	0	0	0	0	0	0	0	1	0	58.82	2	3	0	1	0	2	2	0	0	3	3
Hector	5,025	4	9.60	0	......	0	0	0	0	0	0	0	0	0	0	0	......	3	0	0	0	0	1	0	0	0	0	0
Manchester	*4,000	6	18.00	2	33.3	0	0	0	0	0	0	0	0	0	0	0	......	2	0	1	0	0	0	1	0	0	1	1
Canandaigua	6,30	6	11.43	1	16.7	0	0	0	0	0	0	0	0	0	0	1	333.33	1	1	1	0	0	0	0	0	1	0	0
Geneva	*6,000	14	28.00	0	......	0	0	0	0	0	0	0	0	0	0	0	......	4	2	1	0	3	2	0	1	0	1	0

Lima	*2,800	8	34.28	1	12.5	0	0	0	0	0	0	0	0	0	2	0	250.00	3	2	0	0	0	0	0	0	0	1	0
Rest of district	....	94	....	9	9.5	0	0	1	1	0	0	0	1	0	0	0	22.73	19	14	2	5	7	10	9	2	5	10	9
LAKE ONTARIO & WESTERN DISTRICT:																												
OSWEGO	*24,000	30	15.00	13	43.3	0	0	0	0	0	0	1	0	2	1	1	166.66	5	3	0	1	1	4	4	0	0	5	2
Fulton	*5,000	6	14.40	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	1	1	2	1	0	0	0	0
Lyons	*6,000	10	20.00	2	20.0	0	0	1	0	0	0	0	0	0	0	0	100.00	2	1	0	1	1	0	1	0	0	1	2
Arcadia	5,702	4	8.43	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	4	0
Palmyra	*4,800	3	7.50	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	1	1
Wolcott	3,753	5	15.99	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	1	0	0	0	1	1
Sodus	5,285	7	15.90	3	42.9	0	0	0	0	0	0	0	0	1	0	0	142.86	1	2	0	0	0	1	2	0	0	0	0
ROCHESTER	*101,000	134	15.92	40	29.8	0	0	3	1	0	0	0	3	0	13	2	164.18	19	10	2	6	7	7	22	4	7	6	22
Sweden	5,735	9	18.83	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	2	2	1	0	2	1
Greece	*5,000	7	16.80	2	28.6	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	2	0	2	0	0	0	0
Penfield	*3,000	4	16.00	2	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	2	1	0	1	0	0	0	0
Ogden	*3,000	3	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	0	0	0	0	0	0	0
LOCKPORT	*16,000	11	8.25	1	9.1	0	0	1	0	0	0	0	0	0	0	0	90.91	0	1	0	0	0	4	0	1	0	4	0
Tonawanda	4,900	3	9.23	2	66.6	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	0	0	0	0	1
Amherst	4,518	9	23.89	3	33.3	0	0	0	0	0	4	0	0	0	1	0	555.55	0	0	1	1	0	0	0	0	1	1	0
Rest of district	....	119	....	19	14.5	3	0	4	3	0	1	0	2	1	2	0	136.75	16	18	1	7	4	9	12	8	2	20	6
Totals for the State.	....	6,606	....	2,288	34.27	40	1	52	70	0	126	154	41	53	412	89	125.37	1,396	929	95	302	338	437	712	149	190	456	564

REMARKS. — The total reported mortality for the month is 6,606, the percentage of infant mortality for the State being 34.27. The total number of deaths reported from zymotic diseases is 837, the ratio per thousand deaths from all causes being 125.37, or about one-eighth. The percentage of mortality from croup and diphtheria is 4.67, and from typhoid fever 0.78, the number of deaths from both being considerably less than in January. The continued prevalence of measles is reported from various localities, but the number of deaths for the State is less than for the preceding month, being 2.32 per cent. The principal mortality is from acute respiratory diseases, the percentage being 20.91; from consumption it is 13.91.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during March, 1885.

	Population.	Total number of deaths.	Representing annual death rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DISTRICT :																												
NEW YORK CITY........	*1,397,395	3,344	28.72	1,327	39.7	27	0	10	37	0	77	119	21	35	190	58	169.56	797	530	51	127	206	184	304	67	93	242	169
BROOKLYN	*665,602	1,312	23.82	520	39.4	0	0	9	15	0	35	24	17	20	68	25	161.24	314	175	32	65	54	73	123	29	47	22	165
Gravesend	*5,000	7	16.60	1	14.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	2	1	2	1	1	0	0
New Lots............	*17,000	38	25.83	20	52.6	1	0	0	0	0	0	0	0	0	4	0	131.57	5	8	1	5	1	1	3	2	2	0	5
New Utrecht	4,742	17	43.02	7	41.2	0	0	0	0	0	0	1	0	0	0	0	58.82	7	1	1	0	1	0	1	0	1	2	2
Flatlands	3,127	6	23.02	1	16.7	0	0	0	0	0	2	0	0	0	0	0	333.34	1	1	0	0	1	0	0	0	0	0	1
LONG ISLAND CITY.. ...	*21,000	42	24.00	12	28.6	0	0	0	0	0	1	1	0	1	0	0	71.43	22	1	0	0	1	3	5	1	1	1	4
Newtown	*10,000	25	30.00	8	32.0	0	0	0	0	0	2	0	0	0	2	1	200.00	5	7	0	0	0	2	2	0	0	0	4
Oyster Bay................	*12,000	16	16.00	3	18.7	0	0	0	0	0	0	1	0	0	3	1	125.00	3	0	0	0	1	0	5	0	1	0	1
Hempstead	18,100	18	12.00	6	33.3	0	0	1	0	0	1	1	0	0	2	0	277.78	4	2	0	0	1	2	1	1	0	1	1
North Hempstead....	*7,000	15	25.71	3	20.0	0	0	0	0	0	1	1	0	0	1	0	300.00	1	2	0	0	0	4	1	2	1	0	1
Jamaica	10,089	15	17.82	8	53.3	0	0	0	0	0	0	0	0	0	0	0	....	4	1	0	1	2	0	2	0	0	1	4
Babylon	4,739	14	35.44	4	28.6	0	0	0	0	0	1	0	0	0	0	0	71.43	5	2	0	2	0	0	3	0	0	0	1
Southold	7,267	10	16.51	4	40.0	0	0	0	0	0	0	0	0	0	0	1	100.00	3	2	1	0	0	0	2	0	0	0	1
Southampton..........	6,352	10	18.89	2	20.0	0	0	1	0	0	0	0	0	0	0	0	100.00	2	1	0	2	0	1	1	0	0	1	1
Northfield	7,014	15	25.71	4	26.7	0	0	0	0	0	2	0	0	0	1	0	200.00	2	2	0	0	2	0	3	0	0	2	1
Westfield	5,289	6	13.61	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	2	0	1	2	0	1	0	0
YONKERS	*22,000	5	19.09	14	40.0	0	0	0	1	0	0	0	1	0	1	0	85.72	12	6	0	3	1	2	3	1	0	0	3
Westchester	*6,900	7	12.18	1	14.3	0	0	0	0	0	0	0	0	0	1	0	142.86	4	2	0	0	0	0	0	0	0	0	0
Rye	*7,500	7	11.20	0	......	0	0	0	1	0	0	0	0	0	0	0	142.86	3	0	0	1	1	0	1	0	0	0	0
Sing Sing	*6,500	14	25.84	5	35.7	0	0	0	0	0	0	0	0	0	0	0	....	1	3	0	0	1	2	2	2	0	0	3
Rest of district	....	50	....	9	18.0	0	0	0	2	0	0	2	1	0	2	2	180.00	9	6	0	1	2	5	10	0	0	6	2
HUDSON VALLEY DIST. :																												
ALBANY	*99,435	154	18.58	55	35.7	2	0	6	0	0	0	6	0	0	5	4	149.35	27	19	1	8	10	3	36	3	3	4	17
COHOES....	*20,000	40	24.00	19	47.5	0	0	2	1	0	0	0	0	1	2	2	200.00	5	5	0	1	2	4	5	1	2	0	7
West Troy..................	*13,600	26	24.00	8	30.8	0	0	1	0	0	0	0	1	0	0	0	76.92	8	3	0	4	0	4	3	0	0	0	2
TROY	*60,000	129	25.80	45	31.7	0	0	0	0	0	2	0	3	0	5	0	77.50	29	31	0	7	5	10	29	3	0	4	1
Lansingburgh............	*8,500	23	32.47	9	39.1	0	0	2	0	0	0	0	0	0	3	0	217.39	2	6	0	2	1	0	5	0	0	2	0
Green Island..............	*5,000	8	19.20	3	37.5	0	0	0	0	0	0	0	1	0	1	0	125.00	2	1	0	0	0	0	0	0	0	1	2
Greenbush	*7,200	17	28.05	6	35.3	2	0	0	1	0	0	0	0	0	1	0	235.30	1	4	0	1	0	1	3	0	2	1	0

Catskill	*4,500	13	34.67	4	30.8	0	0	0	0	0	0	0	0	0	0	1	76.92	0	1	0	1	0	3	6	0	0	0	1
HUDSON	*10,000	27	32.40	8	29.6	0	0	0	0	0	0	0	1	0	0	1	74.07	6	1	1	1	2	2	3	1	1	2	5
KINGSTON	20,000	29	17.40	5	17 2	0	0	2	1	0	0	0	0	0	1	0	137.93	4	4	1	1	1	7	5	0	0	2	0
Wawarsing	8,547	6	8.41	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	0	3	0	1	0	1	0	0	0	0	1
Rosendale	5,000	8	19.20	5	62.5	0	0	0	0	0	0	0	0	1	1	1	250.00	1	2	0	0	0	0	3	0	0	0	0
Marbletown	4,000	3	9.00	2	66.7	0	0	0	0	0	0	0	0	0	0	1	....	2	0	0	0	0	0	1	0	0	0	0
Esopus	4,736	6	15.20	4	66.7	0	0	0	0	0	0	0	0	0	0	0	....	4	0	0	0	0	2	0	0	0	0	0
Saugerties	*4,000	8	24.00	3	37.5	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	2	0	1	1	0	3
POUGHKEEPSIE	20,207	46	27.32	11	23.9	0	0	2	0	0	0	1	0	0	1	2	130.43	5	6	0	3	3	2	4	0	1	5	11
Fishkill	10,732	9	10.06	0	......	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	1	0	0	0	0	0	1	3
Wappinger's Falls	*5,000	3	7.20	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	1	0	0	0	0	0	0	1	0
NEWBURGH	*20,000	23	13.80	6	26.1	0	0	0	0	0	0	0	0	0	2	0	82.61	3	5	0	1	0	1	6	0	2	1	2
Port Jervis	*10,000	11	13.20	3	27.3	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	1	1	3	0	1	0	2
Goshen	4,387	8	21.88	3	37.5	0	0	0	0	0	0	0	0	1	0	0	125.00	2	1	0	0	0	2	1	0	0	1	0
Orangetown	8,077	*a*27	40.00	7	25.9	0	0	0	0	0	0	2	0	0	0	1	111.11	5	1	0	3	2	3	0	3	2	2	3
Ramapo	5,000	6	14.40	0	......	0	0	0	0	0	0	0	0	0	0	1	166.67	3	1	0	0	0	0	0	1	0	1	3
Haverstraw	7,000	11	18.86	4	36.4	0	0	0	0	0	0	0	0	0	1	0	90.90	4	0	0	0	0	2	2	0	0	0	0
Rest of district	....	164	....	32	19.5	0	0	6	0	0	4	5	0	0	5	0	121.95	44	24	1	5	3	13	18	6	1	16	13
ADIRONDACK & NORTHERN DISTRICT:																												
Argyle	3,700	3	9.73	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	2	0	0	0	0	0
Greenwich	3,861	3	9.33	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	1	0	0	0	0	0	0	1
Fort Ann	3,262	6	22.07	4	66.7	0	0	0	0	0	0	0	0	1	0	0	166.67	2	0	0	0	0	0	1	0	1	1	0
Fort Edward	4,680	7	17.97	1	14.3	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	0	0	3	0	0	1	1
Queensbury	*10,000	14	16.80	4	28.6	0	0	0	0	0	0	0	0	0	0	0	....	3	3	0	0	0	4	2	0	0	1	1
Crown Point	4,287	6	16.79	3	50.0	0	0	0	0	0	0	0	0	0	2	0	333.33	3	0	0	1	0	0	0	0	0	0	0
Malone	7,908	11	16.71	3	27.3	1	0	0	1	0	1	0	0	0	1	0	362.72	0	0	0	0	1	1	3	0	0	2	0
OGDENSBURG	*10,400	17	19.61	9	53.0	0	0	0	0	0	0	1	0	0	2	2	294.12	5	2	0	2	0	1	0	0	0	1	1
Gouverneur	*5,000	*b*13	31.20	4	30.8	0	0	0	0	0	1	0	0	0	1	0	153.85	4	1	0	0	0	1	1	1	0	2	1
Ellisburgh	4,812	10	24.93	4	40.0	0	0	0	0	0	0	0	0	0	0	0	....	4	1	0	0	1	0	1	0	0	2	1
WATERTOWN	*13,000	7	6.00	2	28.6	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	2	0	1	1	0	0	0	0
Cape Vincent	3,143	4	15.27	2	50.0	0	0	0	0	0	0	0	0	0	0	0	....	3	0	0	1	0	0	0	0	0	0	0
Rest of district	....	131	....	35	25.4	0	0	1	0	0	1	0	1	0	9	0	89.55	35	26	1	7	3	8	13	6	4	10	14
MOHAWK VALLEY DIST.:																												
SCHENECTADY	*15,000	28	22.40	9	32.2	2	0	1	0	0	0	0	0	0	0	1	142.86	4	4	0	1	0	3	8	0	1	2	1
Middleburgh	3,376	1	3.55	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	0	0
Cobleskill	3,371	3	10.68	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	0	0	9	0	1	0
Amsterdam	*13,000	14	12.92	6	42.9	0	0	1	0	0	0	2	0	0	0	0	214.29	3	1	1	0	1	1	2	0	0	1	1
Johnstown	*6,000	6	12 00	2	33.3	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	1	1	0	0	1	1
Gloversville	*8,000	5	7.50	1	20.0	0	0	0	0	0	0	1	0	0	0	0	200.00	0	0	0	0	1	0	2	0	0	0	1
Little Falls	*7,300	7	11.51	2	28.6	0	0	1	0	0	0	0	0	0	0	0	142.86	0	0	1	1	0	0	1	0	1	1	1
Ilion	*4,500	5	13.34	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	0	0	0	3	0
UTICA	*39,000	72	22.15	18	25.0	0	0	0	0	0	0	1	1	0	4	0	83.33	13	10	0	1	3	7	13	1	0	7	11
ROME	12,045	15	14.94	2	13.3	0	0	0	0	0	0	2	0	0	1	0	200.00	3	1	1	0	0	1	2	1	1	0	2
Boonville	4,000	9	27.00	4	44.4	0	0	0	0	0	0	0	0	0	2	0	222.22	1	3	0	1	1	0	1	0	0	0	0
Camden	3,400	4	14.12	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	0	0	2	0	0	0	0
Waterford	4,326	17	47.11	5	29.4	0	0	0	0	0	0	0	0	0	1	1	117.65	5	4	1	1	0	0	1	0	0	0	3
Milton	5,565	14	30.19	1	7.1	0	0	0	1	0	0	0	0	0	0	0	71.43	2	1	0	1	1	2	0	0	0	0	6
Saratoga Springs	*10,000	21	25.20	6	28.6	0	0	0	1	0	0	0	0	0	0	0	47.62	2	6	0	0	1	0	7	0	2	0	2
Rest of district	....	89	....	14	15.7	1	0	0	1	0	0	2	2	0	0	0	67.40	20	12	3	5	1	11	7	1	2	10	11
SOUTHERN TIER DIST.:																												
BINGHAMTON	*20,000	23	13.80	6	26.1	0	0	1	1	0	0	0	1	0	1	1	....	6	3	0	2	0	2	2	0	0	0	3
Owego	6,000	5	10.00	3	60.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	1	1	0	0	0	1
Candor	4,323	4	11.10	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	1	1	0	1	0	0	0	0	1

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death rate per 1,000 of—	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
SOUTHERN TIER DIST.:																												
ELMIRA	*25,000	24	11.52	4	16.7	0	0	1	0	0	0	0	0	0	1	0	83.33	3	6	2	3	1	1	5	0	1	0	0
Horseheads	3,500	3	10.29	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	1	1	0	0
Hornellsville	*10,000	10	12.00	4	40.0	0	0	0	0	0	0	0	0	2	0	0	200.00	2	1	0	1	0	2	0	0	0	1	1
Bath	7,400	11	17.84	2	18.2	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	0	2	3	0	1	2	1
Olean	8,000	2	3.00	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	1	0
Jamestown	*12,000	16	16.00	2	12.5	0	0	0	0	0	0	0	0	0	0	0	....	6	4	0	0	0	2	2	0	0	1	1
Westfield	3,500	3	10.28	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	1	0	0	0	1	0
Rest of district	....	37	....	6	16.2	0	0	0	0	0	1	0	2	0	1	0	108.11	11	5	0	0	1	0	9	0	0	4	3
EAST CENTRAL DIST.:																												
Walton	3,541	5	16.94	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	1	1	0	0	0	1	0
Delhi	3,000	9	36.00	1	11.1	0	0	0	0	0	0	0	0	0	2	0	333.33	2	0	0	0	0	0	0	1	0	2	2
Cooperstown	*3,000	3	12.00	0	......	0	0	0	0	0	0	0	0	0	1	0	333.33	0	0	0	0	0	2	0	0	0	0	0
Oneonta	*7,000	15	25.71	3	20.0	0	0	0	0	0	0	0	1	0	0	0	66 67	6	1	0	1	2	2	1	0	0	0	1
Worcester	*3,000	1	4.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	0
Brookfield	3,685	11	35.82	3	27.3	0	0	0	0	0	0	0	0	0	1	1	181.82	5	0	0	0	0	1	2	0	0	1	0
Baldwinsville	*3,000	4	16.00	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	1	0	0	0	1
SYRACUSE	*65,000	81	14.95	15	18.5	0	0	0	1	0	0	0	1	0	4	0	74.07	18	11	1	4	1	7	14	3	4	8	4
Geddes	7,000	2	3.43	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	0	0	0
Homer	3,500	10	34.28	3	36.0	0	0	0	0	0	0	0	0	0	1	0	100.00	2	1	0	1	0	0	1	0	0	0	4
Rest of district	....	110	....	15	13.7	2	0	2	0	0	0	2	0	0	3	0	81.81	27	11	2	2	8	10	18	6	0	9	8
WEST CENTRAL DIST.:																												
AUBURN	*26,000	31	11.92	4	13.3	0	0	0	0	0	0	0	0	0	0	2	64.52	8	9	0	2	2	0	2	1	1	2	2
Groton	3,450	2	6.95	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	0	0	0	0	0	0
Ithaca	11,198	11	11.79	0	......	0	0	1	0	0	0	0	0	0	0	0	90.91	3	2	0	1	0	2	0	0	0	2	0
Waterloo	*4,500	7	18.67	2	28.6	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	1	0	2	1	0	0	0	2
Seneca Falls	6,853	5	8.76	2	40.0	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	0	1	0	0	2
Hector	5,025	4	9.60	1	25.0	0	0	0	0	0	1	0	0	0	0	0	250.00	1	0	0	0	0	1	1	0	0	0	0
Manchester	*4,000	7	....	1	14.3	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	2	2	0	0	2	0
Phelps	*7,000	4	6.86	0	......	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	0	1	1	0	0	0	0
Geneva	*6,000	13	26.00	1	7.7	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	2	0	1	2	1	1	3	1
Dansville	*3,700	9	29.19	2	22.2	0	0	0	1	0	0	0	0	0	0	0	111.11	1	3	0	0	0	0	2	0	0	1	1
Lima	*2,800	1	4.29	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	1	0
Rest of district	....	109	....	16	14.7	0	0	3	0	0	0	0	2	0	1	1	64.22	17	12	2	8	7	10	12	3	1	20	10

LAKE ONTARIO & WESTERN DISTRICT:																												
OSWEGO	*24,000	38	19.00	14	36.8	0	0	2	0	0	0	1	0	2	0	0	131.58	4	4	2	1	5	5	4	0	1	4	3
Fulton	*5,000	7	16.80	1	14.3	0	0	0	0	0	0	0	1	0	0	0	166.67	0	1	0	0	1	2	0	0	0	1	1
Lyons	*6,000	5	10.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	1	0	0	0	0	0	2
Arcadia	5,702	10	21.00	0	......	0	0	0	0	0	0	0	1	0	0	0	100.00	3	2	2	0	0	0	0	0	0	0	2
Palmyra	*4,800	8	20.00	2	25.0	0	0	0	0	0	0	0	0	0	0	0	....	3	0	0	0	1	0	1	1	0	1	1
Wolcott	3,753	6	19.18	2	33.3	0	0	0	0	0	0	0	0	0	0	1	166.67	1	1	0	1	0	0	0	0	0	2	0
ROCHESTER	*101,000	161	19.13	52	32.4	0	0	1	2	0	1	1	0	0	7	2	86.95	27	18	4	10	12	14	25	6	4	5	22
Brockport	*4,500	9	24.00	3	33.3	0	0	0	0	0	0	1	2	0	1	0	444.44	1	1	0	1	0	0	0	0	0	2	0
Greece	*5,000	5	12.00	1	20.0	0	0	0	2	0	0	0	0	0	0	0	400.00	1	1	0	0	0	0	0	0	0	0	1
Mendon	3,200	4	15.00	1	25.0	0	0	1	0	0	0	0	0	0	0	0	250.00	2	0	1	0	0	0	0	0	0	0	0
Brighton	3,736	5	16.06	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	2	0	0	0	0	0	0	0
Ogden	*3,000	8	32.00	2	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	2	2	0	0	1	0
Albion	*5,000	7	16.80	2	28.6	0	0	0	0	0	0	0	0	1	0	0	142.86	1	1	0	0	0	0	1	0	1	1	0
LOCKPORT	*16,000	13	9.75	1	7.7	0	0	0	0	0	0	0	0	0	0	0	....	1	4	0	0	0	2	0	0	5	0	0
Tonawanda	4,900	6	14.70	3	50.0	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	2	0	0	0	0	0	1	1
Amherst	4,518	5	13.28	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	2	2
Rest of district	....	124	....	31	25.2	2	0	2	1	0	1	2	2	2	2	1	121.95	19	12	2	7	4	13	13	6	3	16	14
Totals for the State.	....	7,391	....	2,561	34.6	40	0	60	71	0	135	180	63	67	352	113	146.08	1,684	1,083	118	329	368	481	812	165	200	467	603

REMARKS.— The total reported mortality for the month is 7,400, being an excess of 724 deaths over the number reported in the February bulletin. The percentage of infant mortality is 34.27, about the same as that of last month. The total number of deaths from zymotic diseases is 1,081, making a percentage of the total mortality of 14.60. The percentage of mortality from acute respiratory diseases is 22.76; from consumption it is 14.61. Since the February bulletin was issued, 167 delayed returns of deaths for that month have been received, of which the mortality under five years is 57.

a Number of deaths in April, 16; *b* Number of deaths in February, 14; from zymotic diseases, 6.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during April, 1885.

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DISTRICT:																												
NEW YORK CITY	*1,397,395	3,097	26.46	1,197	38.7	10	0	14	33	0	77	98	12	26	181	66	166.93	675	475	38	130	240	226	269	0	115	229	183
BROOKLYN	*665,602	1,272	22.93	485	38.2	0	0	7	15	0	40	35	11	15	57	15	157.23	315	190	23	56	58	60	136	26	30	31	152
Gravesend	*5,000	8	19.20	2	25.0	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	0	0	0	2	0	2	0	0
New Lots	*17,000	31	20.66	11	35.4	0	0	0	0	0	0	0	0	0	1	1	32 25	6	4	1	0	3	2	7	1	1	1	3
New Utrecht	4,742	7	17.71	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	2	0	2	0	1	1	0
Flatlands	3,127	6	23.02	3	50.0	0	0	1	0	0	1	1	0	0	0	0	500.00	0	0	0	0	0	1	1	0	0	1	0
LONG ISLAND CITY	*21,000	28	16.00	17	60.7	2	0	0	2	0	2	2	0	2	1	0	392.87	11	0	0	2	0	0	3	0	0	1	0
Newtown	*10,000	24	28.80	6	25.0	0	0	0	0	0	1	0	0	0	1	0	83.33	4	4	0	1	1	1	3	0	0	3	5
Oyster Bay	*12,000	20	20.00	8	40.0	1	0	0	0	0	0	0	0	0	2	0	150.00	5	1	0	4	1	0	2	0	0	1	3
Hempstead	18,160	18	12.00	5	27.8	0	0	0	0	0	2	0	1	0	0	0	166.67	4	3	1	1	0	0	0	0	1	3	2
North Hempstead	*7,000	15	25.71	2	13.3	0	0	0	0	0	0	0	0	0	0	0	....	7	1	2	2	0	1	0	0	0	2	0
Jamaica	10,089	18	21.40	9	50.0	1	0	0	0	0	1	1	0	0	2	0	277.78	5	1	0	1	1	1	1	0	0	0	3
Babylon	4,739	*a*14	35.44	2	11.3	0	0	0	0	0	0	0	0	0	0	1	71.43	4	3	0	3	0	0	2	0	0	0	1
Southold	7,267	7	11.56	2	28.6	0	0	0	0	0	0	2	0	0	0	0	285.71	0	1	0	1	0	0	1	0	0	1	1
Southampton	6,352	12	22.67	5	41.7	0	0	0	0	0	1	1	0	1	0	0	250.00	2	1	0	0	0	1	0	0	0	4	1
Northfield	7,014	10	17.10	2	20.0	0	0	0	0	0	0	0	0	0	2	0	200.00	2	0	0	0	0	2	2	1	1	0	0
Westfield	5,289	12	27.22	1	8.3	0	0	0	1	0	2	0	0	0	0	0	250.00	3	1	1	0	0	2	1	1	0	0	0
YONKERS	*22,000	36	19.64	7	19.4	0	0	0	1	0	0	0	0	0	0	1	55.56	9	6	0	1	6	1	6	1	1	1	2
Westchester	*6,900	7	12.17	4	57.1	0	0	1	0	0	0	0	0	0	3	0	571.43	0	0	0	0	0	0	0	0	0	1	2
Rye	*7,500	6	9.60	2	33.3	0	0	0	0	0	1	0	0	0	0	0	166.67	1	2	0	1	0	0	1	0	0	0	0
Sing Sing	*6,500	12	22.15	2	16 7	0	0	0	0	0	1	0	0	0	0	0	83.33	1	1	0	0	0	4	2	0	2	1	0
Rest of district	....	52	....	11	21.1	2	0	0	1	0	0	6	0	0	2	1	230.77	10	10	0	3	2	1	5	0	2	3	4
HUDSON VALLEY DIST:																												
ALBANY	*95,000	163	20.59	44	27.0	0	0	4	1	0	0	9	0	0	5	1	123 70	28	25	0	7	5	14	22	7	5	7	23
COHOES	*20,000	38	22.80	22	57.9	1	0	0	0	0	0	0	0	0	3	0	105.26	8	9	1	0	1	1	5	0	2	0	7
West Troy	*13,000	17	15.69	2	11.8	0	0	1	0	0	0	0	0	0	0	0	58.82	5	2	0	1	1	2	4	0	0	1	0
Hoosac Falls	*4,000	11	33.00	4	36.4	0	0	1	0	0	0	0	0	0	0	0	90.91	3	2	0	1	1	0	1	0	0	1	1
TROY	*60,000	145	29.00	30	20.6	0	0	5	0	0	0	1	0	0	1	0	47 58	45	16	0	5	6	17	34	5	2	8	0
Lansingburgh	*8,500	14	19.76	3	21.4	0	0	0	0	0	0	1	0	0	0	0	71.43	1	3	0	4	1	4	0	0	0	0	0
Green Island	*5,000	8	19.20	3	37.5	1	0	1	0	0	0	0	0	0	0	0	230.00	0	2	0	0	0	0	2	0	0	0	2

Greenbush	*7,200	12	20.00	4	33.3	0	0	1	0	0	0	0	0	0	0	0	83.33	2	2	0	1	0	2	1	0	1	1	1
Catskill	*4,500	4	10.67	2	50.0	0	0	0	0	0	0	0	1	0	0	0	250.00	1	0	0	0	0	1	1	0	0	0	0
HUDSON	*10,000	26	31.20	3	11.5	0	0	0	0	0	0	0	1	0	0	0	38.46	5	8	2	0	2	1	2	2	1	1	1
KINGSTON	20,000	21	12.60	6	28.6	1	0	0	1	0	0	0	0	2	1	0	238.10	2	2	2	2	1	3	1	0	1	2	0
Wawarsing	8,547	8	11.23	2	25.0	0	0	0	0	0	1	0	0	0	0	1	250.00	3	0	0	0	0	2	1	0	0	0	0
Rosendale	5,000	4	9.60	2	50.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	1	1	0	0	1	0
Marbletown	4,000	2	6.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	1	0	0	0	0	0
Esopus	4,736	9	22.80	2	22.2	0	0	0	0	0	0	0	0	1	0	0	111.11	4	0	0	0	0	0	0	0	0	1	3
Saugerties	*4,000	1	3.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	0	1
POUGHKEEPSIE	20,207	42	24.95	8	19.0	0	0	3	1	0	0	1	0	0	0	2	166.67	2	7	0	5	1	2	7	2	2	4	3
Fishkill	10,732	9	10.06	3	33.3	0	0	1	0	0	0	0	0	0	0	0	111.11	4	2	0	0	0	0	1	0	0	0	1
Wappinger's Falls	*5,000	7	16.80	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	4	0	0	1	0	1	0	0	0	0
NEWBURGH	*20,000	31	18.60	6	19.4	0	0	0	1	0	0	0	0	0	1	0	64.51	6	6	2	1	0	1	5	3	1	2	2
Port Jervis	*8,800	18	24.54	7	38.9	0	0	1	0	0	0	0	0	1	0	0	111.11	2	5	0	0	0	0	2	0	3	0	4
Middletown	*10,000	14	16.80	4	28.6	0	0	0	0	0	0	0	0	0	0	0	....	3	5	0	1	1	2	2	0	0	0	0
Goshen	4,387	8	21.88	1	12.5	0	0	0	0	0	0	0	0	1	0	0	125.00	2	1	0	0	1	0	1	0	0	2	0
Haverstraw	7,000	12	20.57	5	41.7	0	0	0	0	0	0	0	0	0	0	0	....	4	1	0	1	0	1	2	0	0	1	2
Ramapo	5,000	7	16.80	1	14.3	0	0	0	0	0	0	0	0	0	1	0	142.86	2	1	0	0	0	0	0	0	0	1	2
Rest of district	....	189	....	30	15.8	0	0	5	5	0	4	6	1	0	2	5	148.15	33	22	2	12	7	12	26	1	4	32	10
ADIRONDACK & NORTHERN DISTRICT:																												
Argyle	3,700	4	12.98	0	. ....	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	1	0	2	0	0	0	0	0
Greenwich	3,861	3	9.32	0	......	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	0	0	0	0	0	1	0
Fort Ann	3,262	5	18.39	1	20.0	1	0	0	0	0	0	0	0	0	0	0	200.00	0	0	0	0	0	1	0	0	0	3	0
Fort Edward	4,680	13	33.33	3	23.0	0	0	2	0	6	0	0	0	1	0	0	230.77	1	3	0	0	0	1	3	0	0	1	1
Queensbury	*10,000	9	10.80	3	33.3	0	0	[illegible]	0	0	0	0	0	1	0	0	111.11	3	0	0	1	0	0	1	0	0	2	1
Crown Point	4,287	2	5.59	1	50 0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	1	0	0	0	0
Moriah	7,379	15	24.40	4	26.6	0	0	0	0	0	0	0	0	0	1	0	66.66	4	3	0	0	1	1	0	1	3	0	1
Malone	7,908	15	22.78	5	33.3	0	0	0	0	6	1	0	0	0	2	0	333.33	2	0	0	1	1	2	0	0	0	2	4
OGDENSBURGH	*10,400	16	18.46	4	25.0	0	0	0	0	0	0	0	0	0	1	0	62.50	1	7	0	1	0	1	2	0	0	1	2
Gouverneur	*5,000	13	31.20	6	46.1	0	0	0	0	0	1	0	0	0	3	0	307.69	2	3	1	0	1	0	1	0	0	0	1
Ellisburgh	4,812	5	12.54	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	1	1	0	1	0	0
WATERTOWN	*13,000	9	8.31	2	22.2	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	1	0	4	0	0	2	0
Cape Vincent	3,143	3	11.45	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	0	1	0	0	0	0	0
Rest of district	....	122	....	29	24.6	0	0	1	0	0	1	0	0	1	4	5	92,80	16	20	2	7	2	13	11	3	5	16	15
MOHAWK VALLEY DIST:																												
SCHENECTADY	*15,000	32	23.60	6	18.7	1	0	2	0	0	0	0	0	0	0	0	93.75	3	4	0	4	3	6	7	0	0	0	2
Cobleskill	3,371	1	3.56	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	0	0
Middleburgh	3,376	10	35.55	0	......	0	0	0	0	0	0	0	0	1	0	0	100.00	2	0	0	0	0	1	1	0	0	3	2
AMSTERDAM	*13,000	14	12.92	6	42.8	0	0	0	0	0	0	0	0	0	1	1	142.86	2	1	1	2	0	0	4	0	1	1	0
Johnstown	*6,000	6	12.00	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	1	0	0	2	0	0	1	0
Gloversville	*8,000	10	15.00	6	60.0	1	0	0	0	0	0	0	3	0	0	0	400.00	0	0	0	0	1	1	1	0	0	0	3
Little Falls	*7,300	10	16.44	0	......	0	0	0	1	0	0	0	0	0	0	0	100.00	0	2	0	1	0	0	1	0	1	3	1
Ilion	*4,500	7	18.67	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	1	1	1	0	1	0	6
UTICA	*39,000	51	15.64	15	29.4	1	0	1	0	0	0	0	0	0	3	0	98.04	10	9	0	2	2	3	13	2	1	1	3
ROME	12,045	24	24.00	7	29.1	0	0	0	0	0	0	3	1	0	0	0	166 67	1	4	0	3	0	1	5	0	0	4	2
Boonville	4,000	5	15.00	1	20.0	0	0	0	0	0	0	0	0	0	1	0	200.00	0	0	0	2	1	1	0	0	0	0	0
Camden	3,400	4	14.12	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	1	0	1	1
Waterford	4,328	9	24.95	5	55.5	0	0	1	0	0	0	0	0	0	1	0	222.22	1	0	0	0	0	0	4	0	1	1	0
Milton	5,565	8	17.25	1	12.5	0	0	0	0	0	0	[illegible]	0	0	0	0	....	0	0	0	1	0	1	0	0	1	1	4
Saratoga Springs	*10,000	18	21.60	3	16.7	9	0	0	0	0	0	0	0	0	5	0	277.78	2	3	0	0	3	1	3	0	0	1	0
Rest of district	....	76	....	20	26.3	1	0	0	0	0	0	3	0	0	2	0	78.95	13	11	0	4	2	6	8	2	3	10	11

a Three in public institutions.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
SOUTHERN TIER DIST:																												
BINGHAMTON	*20,000	36	21.60	7	19.4	1	0	1	2	0	1	0	0	0	2	2	250.00	7	2	2	3	3	2	3	0	2	1	2
Candor	4,323	6	16.65	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	2	1	1	0	0	0	1	0
ELMIRA	*25,000	27	12.96	8	29.6	0	0	0	0	0	0	0	0	0	1	0	37.04	4	4	0	2	0	1	8	1	2	3	1
Hornellsville	*10,000	5	6.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	1	1	0	0	0	1
Bath	7,400	8	13.00	0	......	0	0	1	0	0	0	0	0	0	1	0	250.00	1	2	1	0	0	0	0	0	0	1	1
Olean	8,000	8	12.00	4	50.0	0	0	0	0	0	0	4	0	0	0	0	500.00	1	0	0	1	0	0	0	0	0	1	1
Jamestown	*12,000	10	10.00	3	30.0	0	0	0	0	0	0	0	1	0	0	1	200.00	2	1	0	1	0	1	1	0	1	1	0
Westfield	3,500	4	13.71	1	25.0	0	0	0	0	0	0	0	0	0	1	0	250.00	1	0	0	0	0	1	0	1	0	0	0
Rest of district	....	25	....	2	8.0	1	0	1	0	0	0	0	1	0	0	0	125.00	4	7	0	1	1	0	3	0	4	2	0
EAST CENTRAL DIST:																												
Franklin	*3,000	4	16.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	1	0	2	0
Delhi	3,000	3	12.00	0	......	0	0	0	0	0	0	1	0	0	0	0	333.33	1	0	0	0	0	0	0	0	0	1	0
Walton	3,541	3	10.17	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	1	0	0	1	0	0	0	0
Cooperstown	*3,000	1	4.00	1	100.0	0	0	0	0	0	0	0	0	0	1	0	1000.00	0	0	0	0	0	0	0	0	0	0	0
Oneonta	*7,000	8	13.71	1	12.5	0	0	1	0	0	0	0	0	0	0	0	125.00	2	1	0	0	0	1	1	0	0	1	1
Worcester	*3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	1	0
Brookfield	3,685	3	9.77	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	1	0	0	0	0
Baldwinsville	*3,000	1	4.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	0
SYRACUSE	*65,000	107	19.75	22	20.6	0	0	1	1	1	0	2	2	0	3	1	102.80	14	18	2	8	4	10	13	2	8	9	8
Skaneateles	4,866	6	14.79	2	33.3	0	0	0	0	0	0	0	0	0	1	0	166.67	1	1	0	1	1	0	0	0	0	0	1
Homer	3,500	4	13.71	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	2	1
Rest of district	....	106	....	15	14.3	0	0	2	1	0	0	6	1	0	6	0	152.38	17	14	2	3	2	7	9	2	3	19	12
WEST CENTRAL DIST:																												
AUBURN	*26,000	27	12.46	3	11.1	1	0	0	1	0	0	0	0	0	0	0	74.07	4	2	0	8	2	3	5	0	0	1	0
Ithaca	*10,000	12	14.40	2	16.7	0	0	2	0	0	0	0	0	0	1	0	250.00	2	2	0	0	0	0	1	0	0	3	1
Waterloo	*4,500	5	13.34	0	......	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	1	0	1	0	1	0	0
Seneca Falls	6,853	4	7.00	1	25.0	0	0	0	0	0	0	0	0	0	1	0	250.00	0	0	0	0	0	2	0	0	1	0	1
Hector	5,025	4	9.60	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	0	0	0	0	0	1	0
Manchester	*4,000	2	6.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	0	0	0	0	0
Phelps	*7,000	2	3.43	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	2	0	0	0	0
Canandaigua	6,300	10	19.05	1	10.0	0	0	0	0	0	0	0	0	0	0	0	....	2	1	0	0	1	0	3	0	1	0	2
Geneva	*6,000	8	16.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	4	0	2	1	0	0	0	0	1	0

Penn Yan	*4,500	9	24.00	1	11.1	0	0	0	0	0	0	0	1	0	0	0	111.11	1	2	0	2	0	1	0	0	0	1	1
Lima	*2,800	3	12.86	1	38.3	0	0	0	0	0	0	0	0	0	2	0	....	2	0	0	0	0	0	0	0	0	1	0
Rest of district	....	114	....	13	11.4	1	0	1	3	0	1	1	2	1	1	2	114.04	13	15	2	10	1	11	16	1	6	18	8
LAKE ONTARIO & WESTERN DISTRICT :																												
OSWEGO	*24,000	28	14.00	5	18.9	0	0	2	1	0	0	1	0	0	0	0	142.85	3	6	2	0	1	2	2	0	1	4	3
Fulton	*4,000	7	21.00	0	......	0	0	0	0	0	0	0	1	0	0	0	142.86	0	1	0	0	0	0	2	0	1	1	1
Lyons	*6,000	18	36.00	4	22.2	0	0	0	0	0	0	0	0	1	0	0	55.55	2	2	0	2	0	0	2	3	0	2	4
Arcadia	5,702	10	21.05	1	10.0	1	0	0	1	0	0	0	0	0	0	0	....	0	3	0	0	0	1	1	1	1	1	0
Palmyra	*4,800	8	20.00	1	12.5	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	0	0	1	1	1	0	1	0
Wolcott	3,753	5	16.00	3	60.0	0	0	0	0	0	0	3	0	0	0	0	600.00	1	1	0	0	0	0	0	0	0	0	0
ROCHESTER	*101,000	153	18.17	39	25.5	0	0	2	0	0	1	0	3	0	13	0	124.18	21	22	2	14	8	8	26	7	5	8	13
Brockport	*4,500	3	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	0	0	0	0	0	1	0
Mendon	3,200	5	18.75	1	20.0	1	0	0	0	0	0	0	0	0	0	0	200.00	1	0	0	1	0	0	0	0	0	2	0
Brighton	3,736	*a*9	26.20	0	......	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	0	1	1	2	0	0	1	0
Albion	*5,000	5	12.00	0	......	0	0	0	0	0	0	0	1	0	0	0	200.00	0	0	0	0	1	1	0	0	1	0	1
LOCKPORT	*16,000	16	12.00	3	18.8	0	0	0	0	0	0	0	0	0	0	0	....	0	4	0	0	0	3	0	0	1	4	4
Tonawanda	4,900	5	12.41	0	. ....	0	0	1	0	0	0	0	0	0	0	0	200.00	2	0	0	0	0	1	0	0	1	0	0
Amherst	4,518	6	16.00	3	50.0	0	0	0	0	0	1	0	0	0	1	0	333.33	2	0	0	0	0	1	0	0	0	2	1
Rest of district	....	110	....	16	15.7	1	0	0	2	0	0	3	0	1	3	0	98.04	13	16	2	5	4	8	11	2	1	22	16
Totals for the State.	....	7,016	....	2,275	32.5	31	0	68	75	1	141	191	44	56	326	106	132.55	1,441	1,019	94	347	395	487	761	81	236	522	564

a Eight deaths occurred in the county hospital.

REMARKS. — For the year completed with the March bulletin the total reported mortality is 77,086, the infant mortality being 37 per cent. The ratio per 1,000 from zymotic diseases is 228.90; from consumption, 141.50; from acute respiratory diseases, 129.00 — in all 50 per cent of the mortality. In 18 cities, of a total population of 2,559,800, the ratio per 1,000 from zymotic diseases is 235.92; from consumption, 145.52; the mortality for the year being 59,859, or 23 38 per 1,000 population. For April the ratio per 1,000 from zymotic diseases is 132.55; from consumption, 132.71; for acute respiratory diseases, 205 71. For March, 291 delayed returns have been received.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during May, 1885.

	Population.	Total number of deaths.	Representing annual death rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DISTRICT:																												
NEW YORK CITY........	*1,397,395	2,937	25.53	1,110	23.7	22	1	16	36	0	71	84	14	24	181	82	180.79	474	443	36	136	192	151	256	62	163	211	284
BROOKLYN	*665,602	1,205	21.57	429	35.6	1	0	3	14	0	29	40	5	10	50	35	155.02	216	199	21	57	56	56	129	23	54	27	180
Gravesend	*5,000	9	21.60	1	11.1	0	0	0	0	0	1	0	0	0	0	0	111.11	3	0	0	0	0	0	1	0	0	0	4
New Lots............	*17,000	25	16.66	9	36.0	2	0	0	0	0	2	0	0	0	0	0	160.00	7	6	0	0	1	0	3	1	0	0	3
New Utrecht	4,742	4	10.12	1	25.0	0	0	0	0	0	1	0	0	0	0	0	250.00	1	1	0	0	0	0	0	0	1	0	0
Flatlands	3,127	2	7.68	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	1	0	0	0	1	0	0	0	0
LONG ISLAND CITY.. ...	*21,000	36	20.57	12	33.3	0	0	0	0	0	0	1	0	1	1	1	111.11	9	1	2	4	2	2	5	2	3	2	0
Newtown	*10,000	12	14.40	4	33.3	0	0	0	0	0	0	0	0	0	2	0	166.67	2	0	0	0	0	0	2	1	1	0	4
Oyster Bay.................	*12,000	16	16.00	7	......	1	0	0	0	0	0	0	0	0	0	0	62.50	4	2	0	1	0	1	3	0	0	1	3
Hempstead	18,160	14	9.30	4	28.5	0	0	0	1	0	0	0	0	0	1	0	142.86	2	0	0	3	1	2	1	1	0	1	1
North Hempstead	*7,000	14	24.00	7	50.0	0	0	0	0	0	0	2	0	0	0	0	142.86	5	1	0	1	1	0	3	0	0	1	0
Jamaica	10,089	18	21.40	5	27.8	0	0	0	0	0	0	1	0	0	1	0	111.11	2	2	0	0	2	5	3	0	2	0	0
Babylon	4,739	5	12.66	0	......	0	0	1	1	0	0	0	0	0	0	0	400.00	0	0	0	0	1	1	1	0	0	0	0
Southold	7,267	9	14.80	2	25.0	0	0	0	0	0	0	2	0	0	0	0	222.22	0	1	0	0	1	1	0	1	2	1	0
Southampton.......... .	6,352	6	11.34	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	1	1	0	0	3	0
Northfield	7,014	12	20.58	1	8.4	0	0	0	0	0	0	0	0	0	1	0	83.33	2	2	1	2	0	2	1	0	0	0	1
Westfield	5,289	4	9.07	0	......	1	0	0	0	0	1	0	0	0	0	0	500.00	0	0	0	0	0	0	1	0	1	0	0
YONKERS	*22,000	30	16.36	5	16.6	0	0	0	0	0	0	0	0	0	1	1	33.33	3	4	1	1	3	4	3	2	3	1	3
Westchester	*6,900	8	13.91	2	25.0	1	0	0	0	0	0	0	0	0	1	0	250.00	3	1	0	0	0	0	0	0	0	0	2
Rye	7,500	10	16.00	1	10.0	0	0	1	0	0	0	0	0	0	0	0	100.00	1	0	0	1	0	1	4	0	0	1	1
Sing Sing	*6,500	11	20.31	1	9.0	0	0	0	1	0	0	0	0	0	0	0	90.91	1	3	0	0	1	2	2	0	0	0	1
Rest of district	....	50	....	16	32.0	0	0	0	0	0	0	0	0	0	2	1	60.00	12	13	0	1	3	4	4	1	2	3	4
HUDSON VALLEY DIST.:																												
ALBANY	*95,000	177	22.36	62	35.0	2	0	3	0	0	1	14	1	1	8	2	180.79	27	32	1	5	8	17	21	6	3	6	19
COHOES....	*20,000	26	15.60	8	30.8	0	0	2	0	0	0	0	0	0	4	0	230.77	2	9	0	1	2	0	1	1	0	1	3
West Troy...................	*13,000	19	17.54	3	15.8	0	0	1	0	0	0	0	0	0	0	0	52.63	10	1	0	2	0	1	3	0	0	1	0
Hoosick Falls	*4,000	10	12.00	4	40.0	0	0	0	0	0	0	1	0	0	1	0	200.00	1	2	0	0	0	3	1	0	0	0	1
TROY	*60,000	114	22.80	26	22.8	0	0	1	0	0	0	0	0	0	5	0	52.62	28	23	0	5	4	12	29	2	3	2	0
Lansingburgh............	*8,500	20	28.23	6	30.0	0	0	0	0	0	0	0	0	0	2	0	100.00	4	4	0	2	1	0	3	0	0	0	4
Green Island.............	*5,000	12	28.50	2	16.6	1	0	0	0	0	0	0	0	0	0	0	....	0	4	0	0	1	1	1	0	0	2	2

Greenbush	*7,200	17	28.33	8	45.9	0	0	1	0	0	0	1	0	0	0	0	117.65	1	2	0	0	0	7	0	1	1	0	3
Catskill	*1,500	9	24.00	2	22.2	0	0	0	0	0	0	0	0	0	1	0	111.11	2	2	0	0	0	1	1	0	0	0	2
HUDSON	*10,000	14	16.80	4	28.6	0	0	1	1	0	0	0	0	0	1	1	285.71	0	2	0	1	1	1	1	0	0	0	4
KINGSTON	20,000	28	16.80	7	25.0	0	0	1	2	0	0	0	0	0	0	0	107.15	5	4	0	2	2	5	2	1	0	3	1
Wawarsing	8,547	8	11.23	3	37.5	0	0	0	0	0	0	0	1	0	0	1	250.00	2	0	0	0	0	1	1	0	0	1	1
Rosendale	5,000	1	2.40	1	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	0	0
Marbletown	4,000	4	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	2	1	0	0	0	0
Esopus	4,736	4	10.13	2	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	2	0	0	1	1
Saugerties	*4,000	5	15.00	2	40.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	1	0	0	0	1	1	0
POUGHKEEPSIE	20,207	35	20.79	7	20.0	0	0	0	1	0	0	1	0	0	0	0	57.14	7	6	1	4	1	2	1	2	2	5	2
Fishkill	10,732	10	11.18	4	40.0	0	0	0	0	0	0	0	0	0	0	0	....	2	1	0	0	0	1	3	0	1	0	2
Wappinger's Falls	*5,000	5	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	2	3	0	0	0	0	0	0	0	0	0
NEWBURGH	*20,000	26	15.80	9	34.6	1	0	0	0	0	0	0	0	0	0	0	....	5	9	1	1	1	3	4	0	1	0	0
Port Jervis	*8,800	6	8.19	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	1	0	0	1	0	0	0	0
Middletown	*10,000	21	25.20	3	14.3	0	0	3	3	0	0	0	0	0	3	0	428.57	2	0	0	2	0	1	2	2	0	1	2
Goshen	4,387	9	24.54	1	11.1	0	0	1	0	0	0	0	0	1	0	0	222.22	0	4	0	0	0	0	2	0	0	1	0
Clarkstown	4,378	9	24.55	2	22.2	0	0	0	1	0	0	1	0	0	0	1	222.22	1	2	0	0	1	1	0	0	1	0	0
Orangetown	8,077	9	13.50	3	33.3	0	0	0	0	0	0	0	0	0	1	0	111.11	2	0	0	0	1	2	1	0	0	2	0
Ramapo	5,000	4	9.60	1	25.0	0	0	1	0	0	0	0	0	0	0	0	250.00	0	0	0	0	0	1	0	0	0	0	2
Rest of district	....	151	....	36	24.5	5	0	2	1	0	1	3	1	0	12	1	174.82	14	20	1	9	7	10	23	7	7	12	15
ADIRONDACK & NORTHERN DISTRICT:																												
Argyle	3,700	2	6.49	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	0	0	0	0	0
Greenwich	3,861	6	18.65	0	......	0	0	1	0	0	0	0	0	0	0	0	166.67	1	1	0	0	0	1	0	0	0	1	1
Fort Ann	3,262	2	7.35	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	1
Fort Edward	4,680	7	17.95	2	28.6	0	0	0	0	0	0	0	0	1	1	0	285.71	0	0	0	0	0	1	0	0	1	0	3
Queensbury	*10,000	12	14.40	3	25.0	0	0	1	0	0	0	0	0	2	0	0	250.00	1	5	0	0	0	1	0	1	0	0	1
Crown Point	4,287	2	5.60	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	0	0	0
Malone	7,908	19	27.60	7	36.8	0	0	0	0	0	1	0	0	0	2	0	157.90	4	4	0	0	1	0	3	0	0	1	3
OGDENSBURG	*10,400	12	13.81	1	8.3	1	0	0	0	0	0	0	0	0	0	0	....	4	3	0	0	2	2	0	0	0	0	0
Gouverneur	*5,000	7	16.80	3	42.9	1	0	0	0	0	3	0	0	0	0	0	571.43	1	0	0	0	1	0	0	0	0	0	1
Ellisburgh	4,214	5	14.24	2	40.0	0	0	0	0	0	0	0	0	0	0	0	....	0	3	0	0	0	0	1	0	0	0	1
WATERTOWN	*13,000	13	12.00	3	23.1	0	0	0	0	0	0	0	0	0	0	0	....	2	1	1	2	2	1	1	0	1	2	0
Cape Vincent	3,143	2	7.64	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	0	1
Rest of district	....	128	....	21	16.2	1	0	2	1	0	1	3	2	1	8	1	162.60	16	18	4	7	6	10	13	3	3	10	18
MOHAWK VALLEY DIST.:																												
SCHENECTADY	*15,000	24	19.20	6	25.0	0	0	0	0	0	1	0	1	0	2	1	83.33	4	5	0	1	0	2	4	1	1	1	0
Cobleskill	3,371	3	10.68	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	0	0	0	1	0
Middleburgh	3,376	3	21.32	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	2	0	0	2	0	0	0	1
Amsterdam	*13,000	10	9.23	3	30.0	1	0	0	0	0	0	1	0	0	0	0	100.00	2	2	0	2	0	0	1	0	0	0	1
Johnstown	*6,000	5	10.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	1	1	0	1	0
Gloversville	*8,000	10	15.00	3	30.0	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	0	1	2	0	1	2	0	0
Little Falls	*7,300	6	9.86	2	33.0	1	0	0	0	0	0	0	0	0	1	0	....	0	1	0	0	0	0	0	0	0	3	0
Ilion	*4,500	1	2.67	1	100.0	0	0	0	0	0	0	0	0	0	0	0	....	6	0	0	0	0	0	1	0	0	0	0
UTICA	*39,000	77	23.18	20	25.9	0	0	2	0	0	0	0	0	0	3	2	100.00	10	13	0	2	7	13	10	0	0	6	9
ROME	12,045	16	16.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	3	3	1	0	0	1	4	0	0	1	3
Boonville	4,000	4	12.00	3	75.0	0	0	0	0	0	0	1	0	0	1	0	500.00	1	0	0	0	0	1	0	0	0	0	0
Camden	3,400	1	3.53	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	1	0	0	0
Waterford	4,328	10	27.72	3	30.0	0	0	0	0	0	0	0	0	0	0	0	....	1	4	0	1	0	0	3	0	0	1	0
Milton	5,565	8	17.25	0	......	0	0	0	0	0	1	0	0	0	0	0	125.00	1	3	0	1	0	1	0	1	0	0	0
Saratoga Springs	*10,000	18	21.60	0	......	0	0	0	0	0	0	0	1	0	0	0	55.56	3	4	0	2	0	2	1	1	1	3	0
Rest of district	....	62	....	10	16.0	0	0	1	0	0	0	2	1	0	0	1	80.65	11	8	1	6	1	3	10	3	2	8	4
SOUTHERN TIER DIST.:																												
BINGHAMTON	*20,000	19	11.40	2	10.5	0	0	1	3	0	0	0	0	0	0	0	105.26	2	1	0	0	1	2	3	1	0	1	4

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death rate per 1,000 of—	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
SOUTHERN TIER DIST.:																												
Candor	4,323	6	16.65	0	......	0	0	0	0	0	0	0	0	0	1	0	166.67	1	0	0	1	0	0	0	1	0	1	1
ELMIRA	*25,000	27	12.96	7	25.9	0	0	0	0	0	0	0	0	0	0	1	....	5	2	0	2	0	1	6	2	1	0	7
Horseheads	3,500	6	20.56	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	1	0	0	0	0	1	0	1
Hornellsville	*10,000	10	12.00	4	40.0	0	0	0	0	0	0	1	0	1	0	0	200 00	0	3	1	0	0	0	0	0	2	0	2
Bath	7,400	11	16.35	1	10.0	0	0	0	0	0	0	0	0	0	3	0	363.64	1	2	0	0	1	2	0	2	0	0	0
Olean	*8,000	17	25.50	8	47.0	1	0	0	0	0	0	3	0	1	2	0	411.77	1	0	0	0	0	0	4	0	0	3	2
Jamestown	*12,000	11	11.00	3	27.3	0	0	0	0	0	0	0	1	0	0	0	90.91	0	2	2	1	0	3	1	0	1	0	0
Westfield	*3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	1	0	500.00	0	0	0	0	0	0	0	0	0	1	0
Rest of district	....	91	....	12	13.2	0	0	1	0	0	1	1	1	1	1	1	76.93	13	10	5	6	3	10	11	6	3	9	8
EAST CENTRAL DIST.:																												
Franklin	* 3,000	1	4.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	0	0
Delhi	3,600	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	1	0	0	0	0
Walton	3,541	5	16.94	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	1	1	0	0	0	0	1
Cooperstown	*3,000	1	4.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	1	0
Oneonta	*5,000	8	19.20	2	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	1	1	1	0	0	0	1	0	3
Cazenovia	4,363	6	16.50	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	0	3	0	0	0	1
Baldwinsville	*3,000	0	....	0	.. ...	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	0	0
SYRACUSE	*65,000	82	15.14	24	29.3	4	0	0	0	0	1	0	0	1	4	0	121.96	12	18	0	5	1	3	11	0	5	2	12
Geddes	7,000	4	6.86	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	1	1	0	1	0	0
Rest of district	....	23	....	1	4.3	0	0	0	0	0	1	0	0	0	0	0	43.48	4	3	0	2	0	0	1	3	4	2	3
WEST CENTRAL DIST.:																												
AUBURN	*26,000	33	15.23	5	15.2	1	0	1	0	0	0	0	1	0	0	0	90.91	4	9	1	1	0	1	9	3	1	0	1
Ithaca	*10,000	5	6.00	4	80.0	0	0	0	0	0	0	0	0	0	2	0	400.00	0	0	0	0	1	0	1	0	0	0	1
Waterloo	*4,500	10	26.67	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	1	1	1	0	4	2	0
Seneca Falls	6,853	2	3.50	0	......	0	0	0	1	0	0	0	0	0	0	0	500.00	1	0	0	0	0	0	0	0	0	0	0
Groton	3,450	4	13.91	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	0	1	0	0	0	1
Hector	5,025	3	7.20	0	......	0	0	0	1	0	0	0	0	0	0	0	333.33	1	0	0	0	0	1	0	0	0	0	0
Manchester	*4,000	1	3.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	1	0
Phelps	*7,000	7	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	1	0	0	0	2	0	0	2	0
Canandaigua	*6,300	1	2.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	1	0	0
Geneva	*6,000	9	18.00	5	55.5	0	0	0	0	0	0	0	0	1	1	0	222.22	1	2	0	1	0	1	1	0	0	0	1
Attica	3,100	4	15.50	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	1	0	0	0	0	2
Penn Yan	*4,500	5	13.33	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	0	0	0	0	4	0

Lima	*2,800	4	17.14	2	50.0	0	0	0	0	0	0	0	0	0	3	0	750.00	0	0	0	0	0	0	0	0	0	1	0
Rest of district	....	76	....	9	11.8	1	0	2	3	0	0	1	1	0	0	2	131.58	2	16	1	9	3	6	10	3	5	7	4
LAKE ONTARIO & WESTERN DISTRICT:																												
OSWEGO	*24,000	28	14.00	8	28.5	0	0	2	1	0	0	0	0	0	1	0	142.85	6	4	1	1	0	1	4	0	1	3	3
Fulton	*4,000	4	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	0	0	0	0	0	0	1
Lyons	*6,000	8	16.00	2	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	2	0	2	1	0	3
Arcadia	5,702	10	21.05	1	10.0	0	0	0	1	0	0	0	0	0	0	0	100.00	0	1	1	0	1	1	0	0	2	1	2
Palmyra	*4,800	5	12.50	2	40.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	1	2	1
Wolcott	3,753	4	12.79	1	25.0	1	0	0	0	0	0	0	0	0	0	0	250.00	0	0	0	1	0	0	0	0	0	1	1
ROCHESTER	*101,000	159	18.90	38	23.9	0	0	0	0	0	0	0	6	0	2	1	56.60	24	30	5	9	7	7	27	1	9	3	28
Brockport	*4,500	2	5.33	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	1	0	0	0	0
Mendon	3,200	5	18.75	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	1	0	1	0	0	1	0
Brighton	3,736	7	22.46	0	......	0	0	1	0	0	0	0	0	0	0	0	142.86	1	1	0	0	0	0	1	0	1	2	0
Albion	*5,000	4	9.60	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	0	0	2
LOCKPORT	*16,000	13	9.75	2	15.4	0	0	0	0	0	0	0	1	0	0	0	76.92	1	4	0	0	0	0	3	0	0	0	4
Tonawanda	4,900	4	9.80	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	1	0	1	0	0	0	0	0
Amherst	4,518	2	5.33	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	1	0
Hamburg	3,235	7	25.96	1	14.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	2	1	0	1	0	1	0	1
Rest of district	....	116	....	26	22.8	3	0	2	1	0	5	1	0	1	1	0	122.80	14	16	2	12	3	10	13	8	3	6	15
Totals for the State.	....	6,542	....	2,094	32.2	53	1	55	74	0	122	165	38	47	319	136	154.70	1,638	1,033	94	331	345	407	707	161	312	387	717

REMARKS.—The total reported mortality for the month is 6,542; the percentage of infant mortality is 32.23 The ratio per 1,000 of deaths from zymotic diseases is 154.70, that from measles being 26.83; from scarlet fever, 18.70, and from croup and diphtheria, 48.91. The ratio per 1,000 of deaths from consumption is 157.77, and from acute respiratory diseases, 158.70. For the month of April the number of delayed returns received since last Bulletin was issued is 160; from Albany 13 additional deaths for April are reported.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during June, 1885.

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of—	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DISTRICT:																												
NEW YORK CITY	*1,397,395	2,824	24.25	1,290	45.7	13	1	17	37	3	53	73	16	22	177	307	254.25	334	376	35	146	173	141	267	67	133	181	251
BROOKLYN	*665,602	1,275	22.84	675	52.9	0	0	4	17	0	33	25	5	10	51	304	273.72	150	138	17	64	51	76	122	24	35	22	127
Gravesend	*5,000	*a*5	12.00	2	40.0	0	0	0	0	0	0	0	0	0	0	1	*a*200.00	0	0	0	0	0	0	3	0	0	0	1
New Lots	*17,000	38	25.33	14	39.5	0	0	0	0	0	2	0	0	0	1	3	157.89	3	7	0	2	2	1	9	0	1	4	3
New Utrecht	4,742	8	20.24	2	25.0	0	0	0	0	0	0	0	0	0	0	1	125.00	1	1	0	0	1	1	2	0	0	0	1
Flatlands	3,127	5	19.19	4	80.0	0	0	0	0	0	0	0	0	0	0	2	400.00	0	1	0	0	0	0	2	0	0	0	0
Newtown	*10,000	18	21.80	10	55.5	0	0	0	2	0	0	0	0	0	3	2	388.89	0	3	1	0	0	0	3	1	0	0	3
Oyster Bay	*12,000	14	14.00	5	34.3	0	0	1	0	0	0	0	0	0	0	1	142.85	0	1	0	0	1	1	5	1	1	2	0
North Hempstead	*7,000	6	10.29	3	50.0	0	0	0	0	0	1	0	0	0	0	0	166.67	1	0	0	1	0	1	0	0	2	0	0
Jamaica	10,089	15	18.00	3	20.0	0	0	0	1	0	0	0	0	0	0	0	66.67	1	1	0	0	1	4	3	0	2	0	2
Babylon	4,739	2	4.53	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	1	0	1
Southold	7,267	7	11.54	0	.....	0	0	0	0	0	1	0	0	0	0	0	....	0	2	0	0	2	0	0	0	1	1	1
New Brighton	....	*a*26	....	5	19.2	0	0	0	0	0	0	0	0	0	1	0	*b*79.92	2	3	0	3	3	6	1	0	2	2	2
Southampton	6,352	5	9.50	0	......	0	0	1	0	0	0	0	0	0	0	0	....	0	1	0	0	0	2	0	0	0	1	0
Northfield	7,014	2	3.43	0	.....	0	0	0	0	0	0	0	0	0	0	1	500.00	0	0	0	0	0	1	0	0	0	0	0
Westfield	5,289	5	11.80	3	60.0	0	0	0	0	0	0	0	0	0	1	0	200.00	2	0	0	0	0	1	0	0	1	0	0
YONKERS	*22,000	31	16.91	17	54.8	3	0	0	0	0	1	0	1	0	0	6	355.00	0	4	1	2	2	2	6	0	1	1	1
Westchester	*6,900	8	13.91	1	12.5	0	0	0	0	0	0	0	0	0	1	0	125.00	1	2	1	0	0	1	0	0	0	1	1
Mount Vernon	*5,000	10	24.00	9	90.0	0	0	0	1	0	0	0	0	0	0	1	200.00	0	4	1	1	0	0	0	0	0	0	2
Rye	*7,500	3	4.80	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	1	1	2
Sing Sing	*6,500	9	16.62	2	22.2	0	0	0	0	0	0	0	1	0	0	1	222.22	1	1	0	1	0	1	0	0	3	0	0
Rest of district	....	81	....	23	......	0	0	0	0	0	1	0	0	0	1	1	....	11	10	1	6	7	6	14	2	5	4	12
HUDSON VALLEY DIST.:																												
ALBANY	*95,000	154	19.45	65	42.2	2	0	2	0	0	1	13	0	2	11	8	311.68	9	23	2	4	7	19	10	9	9	4	19
COHOES	*20,000	24	14.40	7	29.2	0	0	1	0	0	0	0	0	0	2	0	125.00	1	5	0	2	1	1	0	2	1	2	6
West Troy	*13,000	16	14.77	5	31.2	0	0	2	0	0	0	0	0	0	0	0	125.00	1	1	0	1	3	1	2	1	2	0	2
Hoosick Falls	*4,000	4	12.00	1	25.0	0	0	0	0	0	0	0	0	0	1	0	250.00	1	1	0	0	0	0	0	1	0	0	0
TROY	*60,000	81	16.20	19	23.5	5	0	2	0	0	0	0	0	0	2	2	148.15	4	16	5	4	7	9	13	2	1	7	1
Lansingburgh	8,500	20	28.23	5	25.0	0	0	0	0	0	0	0	0	0	4	0	200.00	1	1	0	0	3	7	0	1	0	0	3

Green Island	*5,000	11	26.40	5	45.5	3	0	0	0	0	0	0	0	0	0	0	272.72	0	0	2	0	0	0	0	1	1	1	3
Greenbush	7,200	9	15.00	3	33.3	0	0	1	0	0	0	0	0	0	1	0	222.22	0	1	0	2	0	1	1	0	1	0	1
Catskill.	*4,500	4	10.67	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	1	0	0	0	0	1
HUDSON	*10,000	16	19.20	4	25.0	0	0	0	0	0	1	0	1	0	5	0	437.60	2	1	0	0	0	2	2	0	2	0	0
KINGSTON	20,000	29	17.40	15	51.7	1	0	0	1	0	0	1	0	1	4	1	310.34	5	2	1	1	0	4	4	0	2	1	0
Wawarsing	8,547	11	15.45	1	9.1	0	0	0	0	0	2	0	0	0	0	1	272.72	0	2	0	0	0	1	2	1	1	0	1
Rosendale	5,000	7	16.80	1	14.3	1	0	0	1	0	0	0	0	0	0	0	285.71	2	0	0	0	0	3	0	0	0	0	0
Marbletown	4,000	2	6.00	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	0	1
Esopus	4,736	2	5.07	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	1
Saugerties	4,000	3	9.00	0	......	0	0	1	0	0	0	0	0	0	0	0	333.33	1	0	0	0	0	0	0	0	0	0	1
POUGHKEEPSIE	20,207	20	11.88	2	10.0	1	0	1	0	0	0	0	0	0	0	0	100.00	3	2	0	2	1	2	5	1	0	1	1
Fishkill	10,732	13	15.55	2	15.4	0	0	0	0	0	0	0	0	0	3	1	307.70	1	3	0	0	1	2	0	0	0	0	2
Wappinger's Falls	5,000	6	14.40	2	33.3	0	0	0	0	0	9	0	0	0	0	1	166.67	1	1	0	0	0	1	1	0	0	0	1
NEWBURGH	20,000	27	16.20	11	40.8	0	0	0	0	0	0	1	0	0	1	3	185.18	4	3	0	1	1	2	5	2	1	2	1
Port Jervis.	8,500	11	15.52	3	28.6	0	0	1	0	0	0	0	0	0	0	0	90.91	0	3	0	0	0	1	2	0	1	2	1
Middletown	10,000	20	24.00	5	25.0	0	0	0	0	0	0	0	1	0	0	0	50.00	2	0	0	2	1	0	13	0	1	0	0
Goshen	4,387	6	16.41	3	50.0	0	0	0	1	0	0	0	0	2	0	0	500.00	0	2	0	0	0	0	0	0	1	0	0
Haverstraw.	7,000	15	25.71	2	13.3	0	0	0	1	0	0	0	0	1	0	0	155.55	2	5	0	1	0	0	1	0	1	0	3
Ramapo	5,000	4	9.60	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	1	0	1	0
Rest of district	....	147	....	24	......	0	0	3	1	0	1	2	1	0	6	2	....	9	24	0	10	10	18	27	6	5	10	12
ADIRONDACK & NORTHERN DISTRICT:																												
Argyle	3,700	2	6.49	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	0	0	0	0	0
Greenwich	3,861	3	9.32	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	0	0	0	0	1
Fort Ann	4,267	3	8.41	0	....	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	1	0	0	0	0	0	0	0
Fort Edward	4,680	3	7 10	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	0	0	0	0	1
Queensbury	10,000	14	16.80	7	50.0	0	0	0	0	0	0	0	0	0	1	0	71.42	2	0	0	0	0	3	3	0	0	0	5
Crown Point	4,287	2	5.60	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	0	1
Moriah	7,379	4	6.50	1	25.0	0	0	1	0	0	0	0	0	0	0	0	250.00	0	0	0	0	1	1	0	0	0	0	1
Malone	7,908	15	22.78	8	53 3	0	0	0	0	0	0	0	0	0	4	1	333.33	0	1	1	0	0	1	2	0	0	2	3
OGDENSBURG	*11,000	21	22.90	7	33.3	1	0	0	0	0	0	1	0	0	2	0	142.86	1	2	0	0	0	4	1	1	2	3	3
Gouverneur	5,000	8	19.20	2	25.0	1	0	0	0	0	0	0	0	0	3	0	375.00	1	0	0	0	0	0	3	0	0	0	0
Ellisburgh	4,214	2	5.72	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	0	0	0	0	0	1
WATERTOWN	*13,000	16	14.77	4	25.0	0	0	0	0	0	0	1	0	0	1	2	250.00	0	5	0	0	1	2	2	0	2	0	0
Cape Vincent	3,143	2	8.00	0	....	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	2	0	0	0	0	0
Rest of district	....	92	....	20	21.8	1	0	0	2	0	0	0	0	0	8	3	152.18	9	11	1	5	9	5	12	4	6	9	7
MOHAWK VALLEY DIST.:																												
SCHENECTADY	*15,000	28	22.40	3	10.7	0	0	1	0	0	0	0	0	0	1	0	71.43	5	5	2	2	0	5	5	0	2	0	0
Cobleskill	3,371	9	32.04	1	11.1	0	0	0	0	0	0	0	0	0	1	0	111.11	1	0	0	1	0	0	3	1	1	1	0
Middleburgh	3,376	3	10 64	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	1	0	1	0	0
AMSTERDAM	13,000	13	12.00	3	53.8	1	0	0	0	0	0	0	0	0	1	0	153.85	0	4	0	0	2	0	2	0	0	1	2
Johnstown	*6,000	1	2.00	1	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	0
Gloversville	*8,000	7	10.50	2	28.6	0	0	0	0	0	0	0	0	0	0	0	....	2	1	0	0	1	1	0	0	0	0	2
Little Falls	7,300	5	8.22	2	40.0	0	0	0	0	0	0	1	0	0	0	0	200.00	1	1	0	0	1	0	1	0	0	0	0
Ilion	4,500	7	10.89	2	28.6	0	0	0	0	0	0	2	0	0	0	0	285.71	0	1	0	1	0	0	0	0	0	2	1
Herkimer	3,600	6	20.00	2	33.3	0	0	2	0	0	0	0	0	0	0	0	....	0	1	0	1	0	0	1	0	3	0	0
UTICA	*39,000	43	13.23	7	16.3	0	0	0	0	0	0	1	0	0	1	1	70.00	4	9	0	2	0	0	11	2	2	3	2
ROME	12,045	14	14.00	2	14.3	0	0	0	0	0	0	1	0	0	0	0	71.43	1	0	0	0	0	0	3	2	2	5	0
Boonville	4,000	5	15.00	1	20.0	0	0	0	0	0	0	0	0	0	0	1	200.00	1	0	0	0	0	0	2	0	0	1	0
Camden	3,400	1	3.53	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	0	0
Waterford	4,328	8	22.17	4	50.0	0	0	0	0	0	0	0	0	2	0	0	250.00	1	1	0	0	0	0	1	0	1	1	1
Milton	5,565	12	25.96	2	16.7	0	0	0	0	0	0	0	0	0	2	0	166.67	0	3	0	2	0	0	0	2	0	2	1
Saratoga Springs	*10,000	20	24.00	2	10.0	0	0	1	0	0	0	0	1	0	0	0	100.00	1	1	0	3	1	1	2	1	1	5	2
Rest of district	....	39	....	5	12.8	0	0	0	0	0	0	0	0	0	0	0	....	3	7	0	4	2	6	6	1	3	6	1

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
SOUTHERN TIER DIST.:																												
BINGHAMTON	*20,000	25	15.00	7	28.0	0	0	2	0	0	0	0	0	0	0	2	160.00	0	5	0	1	0	3	9	1	1	1	0
Candor	4,323	1	2.78	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	0	0
ELMIRA	*25,000	22	10.56	3	13.6	0	0	1	0	0	0	0	0	0	0	1	90.90	2	4	0	6	2	1	4	0	1	0	0
Horseheads	3,500	2	6.86	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	0	1
Hornellsville	*10,000	4	4.80	0	......	0	0	0	0	0	0	1	0	0	0	0	250.00	0	1	0	0	0	1	0	1	0	0	1
Bath	7,400	10	16.22	2	20.0	0	0	0	0	0	0	0	0	1	3	0	400.00	1	1	0	1	0	2	0	0	0	1	0
Olean	*8,000	13	17.00	6	46.2	0	0	0	0	0	0	2	0	1	0	3	461.54	2	1	0	0	0	0	1	1	0	1	1
Jamestown	*12,000	11	11.00	1	9.1	0	0	0	1	0	0	0	0	0	0	1	181.81	0	3	0	1	1	3	0	0	0	0	1
Westfield	*3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	1	0
Fredonia	2,800	7	30.00	0	......	0	0	0	0	0	0	1	0	0	0	0	142.86	0	0	0	1	0	0	0	1	0	4	0
Rest of district	....	46	....	3	6.5	0	0	0	0	0	1	0	1	0	0	2	87.39	2	7	3	0	2	5	11	2	3	3	4
EAST CENTRAL DIST.:																												
Franklin	3,000	1	4.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	0	0
Walton	3,541	5	16.94	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	1	1	1	0	0	0	0
Cooperstown	*3,000	5	20.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	1	0	1	0	0	0	1
Oneonta	*5,000	2	4.80	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	1	0	0	0	0	0	0	0
Worcester	*3,000	1	4.00	1	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	0	0
Cazenovia	4,363	3	8.30	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	1	1
Brookfield	3,685	2	6.51	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	0	1	0	0	0	0
Baldwinsville	*3,000	1	4.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	0	0
SYRACUSE	*65,000	51	9.42	17	33.3	0	0	0	1	0	1	0	0	1	0	2	98.04	6	7	0	6	3	4	6	2	1	2	9
Geddes	7,000	5	8.57	1	20.0	0	0	0	1	0	0	0	0	0	0	0	200 00	1	1	0	0	0	1	1	0	0	0	0
Homer	*3,500	2	6.86	0	. ...	0	0	0	0	0	0	1	0	0	0	0	500.00	0	0	0	0	0	0	0	0	0	1	0
Rest of district	....	69	....	11	14.5	1	0	1	1	0	2	0	1	0	1	0	101.45	2	4	0	12	3	10	7	4	5	9	6
WEST CENTRAL DIST.:																												
AUBURN	*26,000	*e*26	12.00	6	23.1	2	0	0	0	0	0	0	0	0	2	2	*e*230.77	0	5	0	1	0	3	3	1	1	1	5
Ithaca	*10,000	12	14.40	3	25.0	0	0	0	0	0	0	0	0	0	2	0	166.68	0	0	2	0	0	0	2	2	0	2	2
Waterloo	*4,500	6	16.00	1	16.7	0	0	0	0	0	0	0	1	0	0	1	333.33	0	2	0	0	2	0	1	0	0	1	0
Seneca Falls	6,853	5	8.75	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	2	0
Hector	5,025	1	2.50	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	3	0	0	0	0	0	0	1
Manchester	*4,000	5	15.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	0	1
Phelps	*7,000	1	1.71	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	0

Geneva	*6,000	11	21.00	2	18.2	1	0	0	1	0	0	0	0	0	0	0	181.82	0	1	0	0	0	2	2	0	1	3	1
Penn Yan	4,500	2	5.33	0	......	0	0	1	0	0	0	0	0	0	0	0	500.00	0	0	0	0	0	0	1	0	0	0	0
Lima	*2,800	5	21.43	0	......	0	0	0	0	0	0	0	0	0	1	0	200.00	0	0	0	0	1	0	1	1	0	1	0
Rest of district	....	64	....	5	7.8	1	0	2	2	0	0	0	1	1	0	1	125.00	6	10	0	2	2	4	12	2	2	9	7
LAKE ONTARIO & WESTERN DISTRICT:																												
OSWEGO	*24,000	24	12.00	4	16.7	0	0	1	3	0	0	0	0	0	0	0	166.67	1	4	0	0	2	4	3	1	1	1	3
Fulton	*4,000	2	6.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	0	0	0	0	0	0
Lyons	*6,000	7	14.00	1	14.3	0	0	0	0	0	0	0	0	0	0	1	142.86	1	0	0	1	0	0	1	1	1	1	0
Sodus	*4,800	6	13.61	2	33.3	0	0	0	0	0	0	0	0	0	0	1	166.67	0	1	0	0	0	1	0	1	1	0	1
Wolcott	3,753	4	12.80	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	1	1	0
ROCHESTER	*101,000	133	15.80	37	27.8	0	0	1	0	0	1	0	1	0	7	3	97.74	12	23	1	7	7	8	27	4	7	3	21
Brockport	4,500	5	13.33	1	20.0	0	0	1	0	0	0	0	0	0	0	0	200.00	1	0	0	0	0	0	1	1	0	1	0
Greece	3,200	3	7.20	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	0	0	1	0	0
Brighton	3,736	*c*2	7.50	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	0	1
Albion	*5,000	3	7.50	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	1	1
LOCKPORT	*16,000	*d*2	1.50	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	1	0
Tonawanda	4,900	4	9.80	1	25.0	0	0	0	0	0	0	1	0	0	0	0	250.00	0	1	0	0	0	0	0	1	0	0	1
Amherst	4,518	6	16.00	1	16.7	0	0	1	0	0	0	0	0	0	0	0	166.67	1	2	0	0	0	1	0	0	0	1	1
Aurora	3,000	2	8.00	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	0	1
Hamburg	3,235	5	18.52	1	20.0	0	0	0	0	0	3	0	0	0	0	0	600.00	1	1	0	0	0	0	0	0	0	0	1
Rest of district	....	100	....	13	13.0	0	0	3	0	0	1	0	0	1	2	2	90.00	8	10	1	7	3	13	15	[illegible]	5	11	12
Totals for the State	....	6,204	....	2,483	40.0	37	1	54	74	3	106	128	32	46	319	680	238.55	643	814	78	334	328	432	703	172	277	356	587

REMARKS.— The total reported mortality for the month is 6,204, the percentage of infant mortality is 40.0. The number of deaths from zymotic diseases is 1,480, the ratio per 1,000 to deaths from all causes being 238.55. The ratio per 1,000 of deaths from diarrhœal diseases, the total mortality from which cause is just five times greater than in May, is 109.61; from croup and diphtheria, 51.42; from acute respiratory diseases, 103.64 per 1,000 deaths occurred, and from consumption 131.20. For the month of May 244 delayed returns have been received since the last Bulletin was issued, 53 of which are under five years of age.

a Seven deaths in public institutions. *b* Six deaths in public institutions. *c* Eight deaths in public institutions. *d* Returns manifestly far from correct. *e* Two deaths in public institutions.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during July, 1885.

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DIST.: Totals	....	6,959	....	4,216	60.5	19	2	27	67	4	65	66	13	63	199	2617	422.76	373	597	65	462	277	235	718	100	227	252	511
NEW YORK CITY	*1,397,395	4,312	37.03	2,516	68.3	16	2	19	34	2	35	52	8	49	151	1472	426.71	243	401	44	300	192	139	438	66	136	188	325
BROOKLYN	*665,602	2,052	37.00	1,338	65.2	0	0	7	25	0	25	12	3	9	37	898	495.13	113	155	17	136	69	74	231	26	61	35	119
Gravesend	*5,000	*a*27	64.80	33	85.5	0	0	0	1	0	0	0	0	0	1	15	630.00	0	0	0	4	0	1	3	0	1	0	1
New Lots	*19,000	47	29.68	34	72.3	1	0	0	1	1	2	0	0	2	1	18	553.19	0	0	1	2	4	2	2	0	4	2	4
New Utrecht	4,712	15	37.96	6	40.0	0	0	0	0	1	0	1	0	1	0	2	266.67	1	1	0	0	0	0	3	2	2	0	2
Flatlands	3,127	9	34.50	5	55.5	0	0	0	0	0	0	0	0	0	0	3	333.33	0	1	0	0	0	1	0	0	1	0	3
LONG ISLAND CITY	*21,000	64	36.57	36	66.2	0	0	0	0	1	0	0	0	0	2	25	437.60	2	5	0	4	2	3	6	1	3	0	10
Newtown	*10,000	37	44.40	29	78.4	0	0	0	0	0	0	0	0	0	2	16	486.48	1	2	0	0	0	0	3	0	1	2	10
Oyster Bay	*12,000	20	20.00	13	65.0	0	0	0	0	0	0	0	0	0	0	10	500.00	0	3	0	3	0	1	0	0	1	0	2
Hempstead	18,160	17	11.32	8	47.0	0	0	0	0	0	0	0	0	1	0	6	411.75	0	2	0	2	0	0	0	0	1	1	4
North Hempstead	*7,000	19	32.57	11	57.9	0	0	0	0	0	0	0	0	0	0	7	358.00	2	0	0	2	0	1	3	0	2	2	0
Jamaica	10,089	41	48.71	27	65.9	0	0	1	0	0	2	0	0	0	1	23	658.54	0	2	1	0	0	2	1	1	2	3	2
Babylon	4,739	3	7.17	0	......	0	0	0	0	0	0	0	0	0	1	0	333.33	0	0	0	0	1	0	1	0	0	0	0
Southold	7,267	10	16.51	5	50.0	1	0	0	0	0	0	1	0	0	0	0	200.00	0	0	0	0	0	1	2	1	1	2	1
Southampton	6,352	10	18.89	2	20 0	0	0	0	0	0	0	0	1	0	0	0	100.00	1	0	0	1	2	2	1	0	0	2	0
Northfield	7,014	18	30.79	11	61.1	0	0	0	0	0	0	0	0	0	0	9	500.00	1	1	0	2	0	0	3	0	1	0	1
Westfield	5,289	17	38.11	14	82.4	0	0	0	1	0	0	0	0	0	0	10	646.06	0	3	0	1	1	0	0	0	0	1	0
YONKERS	*22,000	71	38.64	46	64.8	0	0	0	1	0	0	0	0	0	0	36	521.12	0	5	1	1	2	2	6	2	2	2	11
Westchester	*6,900	13	22.61	6	46.1	0	0	0	2	0	0	0	0	0	0	5	539.23	0	0	0	0	0	1	0	0	3	0	2
Mount Vernon	*5,000	*b*20	48.00	9	45.0	0	0	0	0	0	1	0	0	0	0	4	250.00	1	1	0	1	1	0	4	0	0	4	3
Rye	3,500	6	20.57	3	50.0	0	0	0	0	0	0	0	0	0	0	3	500.00	1	1	0	0	0	1	0	0	0	0	0
Sing Sing	*6,500	23	42.46	11	47.9	0	0	0	0	0	0	0	0	0	0	10	434.79	1	2	0	0	0	3	3	0	1	0	3
Rest of district	....	108	....	63	58.3	1	0	0	2	0	0	0	1	1	3	45	490.74	6	12	1	3	3	1	8	1	4	8	8
HUDSON VALLEY DIST.:																												
Totals	....	880	....	351	40.0	6	..	17	14	..	13	15	...	3	23	172	300.00	34	107	10	52	26	59	123	24	48	53	81
ALBANY	*96,336	194	24.17	91	46.9	0	0	3	1	0	3	9	0	0	10	29	273.19	3	19	0	18	10	14	22	5	16	7	25
COHOES	*20,000	45	27.00	28	62.2	0	0	0	1	0	0	0	0	0	0	15	355.55	0	4	0	2	0	2	8	1	3	3	6
West Troy	*13,000	31	28.61	15	48.4	0	0	0	0	0	1	0	0	0	1	11	419.35	3	1	0	2	0	1	6	0	2	1	2
Hoosac Falls	*4,000	11	33.3	4	36.4	1	0	0	0	0	0	0	0	0	0	1	181.81	0	2	0	1	0	0	4	0	0	0	2
TROY	*60,000	127	25.40	50	39.3	3	0	5	0	0	1	1	0	0	0	31	322.83	7	27	3	7	4	8	15	4	6	3	2

Lansingburgh	*8,500	17	24.00	4	23.5	0	0	1	0	0	1	0	0	0	0	3	294.12	1	3	0	1	0	3	0	0	0	3	1
Green Island	*5,000	8	19.20	5	62.5	0	0	0	0	0	0	0	0	0	0	4	500 00	1	0	0	1	0	2	0	0	0	0	0
Greenbush	7,200	14	33.33	7	50.0	1	0	0	0	0	0	0	0	0	0	3	285.71	2	0	0	3	1	0	1	1	0	1	1
Catskill	*4,500	1	2.67	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	0	0
HUDSON	*10,000	25	30.00	7	28.0	0	0	0	0	0	1	0	0	0	5	3	360.00	1	2	0	1	3	3	2	0	2	0	2
KINGSTON	20,000	51	30.60	29	56.9	0	0	1	1	0	0	3	0	1	2	17	509.80	4	5	0	2	1	7	3	0	1	3	0
Wawarsing	8,547	9	12.63	4	44.5	0	0	0	0	0	1	0	0	0	0	2	333.33	0	0	0	0	1	0	4	0	0	1	0
Rosendale	*5,000	1	2.40	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	0
Marbletown	4,000	4	12.00	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	2	2
Esopus	4,736	4	10.21	3	75.5	0	0	0	0	0	0	0	0	0	0	2	500.00	0	1	0	0	0	0	0	0	0	0	1
Saugerties	*4,000	5	15.00	0	......	0	0	0	2	0	0	0	0	0	0	0	400.00	0	0	0	0	0	0	0	0	1	2	0
POUGHKEEPSIE	20,207	41	24.30	16	39.0	0	0	1	3	0	0	0	0	0	1	6	268.30	0	5	0	1	0	2	10	2	0	7	3
Fishkill	10,732	12	13.35	2	10 0	0	0	0	1	0	0	0	0	0	0	0	....	0	2	1	0	0	2	0	0	1	2	3
Wappinger's Falls	*5,000	3	7.20	3	100.0	0	0	0	0	0	2	0	0	0	0	0	666.66	0	0	0	0	0	0	1	0	0	0	0
NEWBURGH	20,000	38	22.80	21	55.2	0	0	0	1	0	0	1	0	0	0	10	315.79	2	4	0	2	1	1	10	0	3	3	0
Port Jervis	*9,000	14	18.67	2	14.3	0	0	1	0	0	0	0	0	0	0	0	71.43	0	2	0	2	0	1	2	0	1	0	5
Middletown	*10,000	10	12.00	0	......	0	0	0	0	0	0	0	0	0	0	1	100.00	0	1	0	1	0	1	5	0	1	0	0
Goshen	4,387	7	19.15	1	14.3	0	0	0	0	0	0	0	0	1	0	1	285.71	0	2	0	0	0	0	1	1	0	1	0
Haverstraw	7,000	11	18.83	5	45.5	0	0	0	0	0	0	0	0	0	0	4	363.64	0	0	0	1	0	0	1	0	1	1	3
Ramapo	*5,000	7	16.80	2	28.6	0	0	1	0	0	0	0	0	0	0	1	285.71	1	1	1	2	0	0	0	0	0	0	0
Rest of district	....	190	....	51	26.8	1	0	4	4	0	3	1	0	1	4	28	242.10	9	25	5	5	5	12	27	10	10	13	23
ADIRONDACK & NORTHERN DIST.: Totals	....	158	....	42	26.6	4	..	1	1	...	1	3	...	5	10	14	246.83	5	21	4	9	7	11	18	7	11	13	13
Greenwich	3,861	6	18.65	4	66.7	0	0	0	0	0	0	0	0	3	0	1	466.67	0	0	0	0	0	0	0	0	2	0	0
Fort Ann	4,267	6	16.87	0	......	1	0	0	0	0	0	0	0	0	0	0	166.67	0	0	0	0	1	1	0	0	2	0	1
Queensbury	*10,000	14	16.80	6	42.8	0	0	0	0	0	0	0	0	0	0	5	357.14	0	2	0	1	0	0	1	1	1	0	3
Crown Point	4,287	2	5.60	1	50.0	0	0	0	0	0	0	0	0	0	0	1	500.00	0	0	0	0	0	0	0	1	0	0	0
Port Henry	2,525	3	14.26	2	66.6	0	0	0	0	0	0	0	0	0	2	0	666.67	0	0	0	1	0	0	0	0	0	0	0
Malone	7,908	4	6.10	2	50.0	0	0	0	0	0	0	0	0	0	1	0	250.00	1	1	0	0	1	0	0	0	0	0	0
OGDENSBURGH	*11,000	16	17.45	2	12.5	1	0	0	0	0	0	0	0	0	0	1	125.00	0	4	0	0	0	4	3	0	0	1	2
Gouverneur	*5,000	7	16.80	2	28.6	1	0	0	0	0	0	0	0	0	2	1	571.43	0	1	0	0	1	1	0	0	0	0	0
Plattsburgh	....	*c*6	....	2	33.3	0	0	0	0	0	0	2	0	0	1	0	500.00	0	2	0	0	0	0	0	0	0	1	0
Ellisburgh	4,812	4	10.00	1	25.0	0	0	0	0	0	0	0	0	0	0	1	250.00	0	1	0	0	0	0	1	1	0	0	0
WATERTOWN	*13,000	14	12.92	4	28.6	0	0	0	0	0	0	0	0	0	1	1	142.86	0	3	1	1	1	2	3	0	0	0	1
Cape Vincent	3,143	3	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	2	0	0	0	0
Rest of district	....	73	....	16	22.2	1	0	1	1	0	1	1	0	2	3	3	181.40	4	7	3	6	3	2	8	4	6	11	6
MOHAWK VALLEY DIST. Totals	....	252	....	73	29.0	1	...	3	...	...	1	1	1	...	14	36	226.19	10	34	7	20	7	15	40	9	13	25	15
SCHENECTADY	*15,000	24	19.20	11	45.8	0	0	2	0	0	1	0	0	0	2	8	541.67	0	6	2	1	1	1	0	0	0	0	0
Cobleskill	3,371	1	3.56	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	0	0
AMSTERDAM	13,000	24	22.15	16	66.7	0	0	0	0	0	0	1	0	0	0	8	375.00	2	1	1	0	0	0	5	0	2	2	2
Johnstown	*6,000	6	12.00	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	2	1	0	0	1	0
Gloversville	*8,000	7	10.50	2	28.6	0	0	0	0	0	0	0	0	0	0	1	142.86	0	1	0	1	1	0	2	0	0	1	0
Little Falls	*7,300	9	14.80	2	22.2	1	0	0	0	0	0	0	0	0	0	0	....	1	0	1	0	0	0	2	0	3	0	1
Ilion	*4,500	8	21.33	2	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	2	1	2	0	0	0	0	1	0	2
Herkimer	*3,000	3	12.00	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	0	1	0	0	0	0
UTICA	*39,000	62	19.08	15	24.2	0	0	0	0	0	0	0	0	0	7	7	225.80	3	5	0	3	3	5	13	6	3	5	2
ROME	12,045	8	8.00	1	12.5	0	0	0	0	0	0	0	0	0	0	1	125.00	0	1	0	1	0	0	1	1	1	1	1
Boonville	4,000	2	6.00	1	50.0	0	0	0	0	0	0	0	0	0	0	1	500.00	0	1	0	0	0	0	0	0	0	0	0
Camden	3,400	4	14.12	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	1	0	0	2	0
Waterford	4,328	9	24.95	5	55.5	0	0	0	0	0	0	0	0	0	1	2	333.33	0	1	0	1	0	0	2	0	1	0	1
Milton	5,565	12	25.87	1	8.3	0	0	1	0	0	0	0	0	0	0	0	83.33	0	3	0	2	0	2	0	0	0	3	1

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a A large transient population. *b* Deaths in Mt. Vernon Home not included. *c* Not including Plattsburgh village.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MOHAWK VALLEY DIST:																												
Saratoga Springs	*10,000	16	19.20	3	18.8	0	0	0	0	0	0	0	0	0	3	1	250.00	0	4	0	2	1	0	2	1	1	0	1
Mechanicville	*2,500	5	24.00	2	40.0	0	0	0	0	0	0	0	0	0	0	1	200.00	0	2	0	0	0	0	2	0	0	0	0
Rest of district	....	52	....	9	17.3	0	0	0	0	0	0	0	1	0	1	6	152.70	3	5	2	4	1	5	8	1	1	10	4
SOUTHERN TIER DIST:																												
Totals	....	134	....	43	32.1	1	...	1	1	...	1	3	...	1	3	23	253.73	14	10	4	10	4	6	14	3	13	10	12
BINGHAMTON	*20,000	37	22 20	16	43.2	0	0	1	0	0	0	1	0	0	1	14	459.45	3	3	0	3	0	3	4	0	2	1	1
ELMIRA	*25,000	25	12.00	11	44.0	0	0	0	1	0	0	1	0	0	1	4	280.00	5	3	1	2	0	0	3	0	1	1	2
Hornellsville	*10,000	7	8 40	1	14.3	0	0	0	0	0	0	0	0	0	0	2	285.71	0	0	0	0	0	0	0	1	1	2	1
Bath	7,400	7	11.35	1	14.3	1	0	0	0	0	0	0	0	0	0	0	142.85	0	0	1	0	1	0	0	1	0	2	1
Olean	*8,000	10	15.00	2	20.0	0	0	0	0	0	1	0	0	0	0	2	300.00	1	1	0	1	0	0	1	0	1	1	1
Jamestown	*12,000	12	12.00	3	25.0	0	0	0	0	0	0	0	0	0	0	0	....	2	2	1	3	1	0	1	0	2	0	0
Westfield	*3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	1	0	0	0
Fredonia	28,000	5	21.43	2	40.0	0	0	0	0	0	0	1	0	0	0	1	400.00	0	0	0	0	0	1	0	0	0	0	2
Rest of district	....	29	....	7	24.1	0	0	0	0	0	0	0	0	1	1	0	68.96	3	1	1	1	2	1	5	0	6	3	4
EAST CENT. DIST: Totals	....	181	....	52	28.7	2	...	7	2	...	...	...	...	1	...	20	176.80	5	24	...	15	4	18	23	8	13	13	26
Franklin	*3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	1	0	0	0	0
Delhi	3,000	1	4.00	1	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	0	1
Walton	3,541	5	16.91	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	2	0	0	0	0	2	0	0
Cooperstown	*3,000	1	4.00	1	100.0	0	0	0	0	0	0	0	0	0	0	1	1000.00	0	0	0	0	0	0	0	0	0	0	0
Oneonta	*5,000	3	7.20	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	1	0	0	1
Worcester	*3,000	1	4.00	1	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	0	1
Brookfield	3,685	3	9.77	2	66.6	0	0	0	0	0	0	0	0	0	0	1	333.33	1	0	0	1	0	0	0	0	0	0	0
Baldwinsville	*3,000	2	8 00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	1	0	0
SYRACUSE	*65,000	71	13.11	29	40 9	2	0	1	2	0	0	0	0	0	0	11	225.35	3	12	0	6	2	3	6	2	6	2	13
Geddes	7,000	6	10.29	4	66.6	0	0	0	0	0	0	0	0	0	0	3	500.00	1	0	0	0	0	0	1	0	0	1	0
Cortland	....	6	....	1	16.7	0	0	1	0	0	0	0	0	0	0	1	333.34	0	1	0	0	0	2	1	0	0	0	0
Homer	3,500	3	10.03	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	1	0	0	1
Rest of district	... .	77	....	11	14 3	0	0	5	0	0	0	0	0	1	0	3	116.75	0	10	0	6	2	11	12	4	4	10	9
WEST CENTRAL DIST:																												
Totals	....	127	....	19	15.0	1	...	1	1	...	...	..	...	...	2	10	118.11	1	25	1	10	9	12	14	3	11	16	10
AUBURN	*26,000	28	12.92	6	21.4	1	0	0	0	0	0	0	0	0	0	6	250.00	0	2	0	2	2	5	4	2	1	2	1

Ithaca	*10,000	7	8.40	1	14.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	1	0	1	1	0	0	1	1	1
Seneca Falls	6,853	7	12.26	1	14.3	0	0	0	0	0	0	0	0	0	0	1	142.85	0	3	0	1	0	1	0	0	1	0	0
Manchester	*4,000	1	2.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	0
Phelps	*7,000	5	8.50	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	2	1	1	0	0	0	0	0
Canandaigua	6,300	10	19.05	1	10.0	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	2	0	4	1	1
Lima	*2,800	6	25.72	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	0	3	0	0	0	0	2	0	0	1	0
Le Roy	*3,000	5	20.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	2	3	0
Rest of district	....	58	....	7	12.1	0	0	1	1	0	0	0	0	0	2	3	120.70	0	14	0	5	5	4	5	1	2	8	7
LAKE ONTARIO & WESTERN DIST: Totals	....	627	....	270	43.1	7	...	4	3	...	8	9	...	4	33	91	253.59	22	65	16	34	14	36	102	18	39	31	91
OSWEGO	*24,000	23	11.42	6	26.1	0	0	1	0	0	0	0	0	0	0	0	43.46	2	3	0	0	3	2	8	1	0	0	3
Fulton	*4,000	2	6.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	1	1	0
Lyons	....	2	....	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	1	0	0	0	0
Arcadia	5,700	9	18.91	1	11.1	0	0	0	0	0	0	0	0	0	0	1	111.11	0	4	0	0	0	1	1	0	0	2	0
Sodus	5,285	3	6.80	0	.. ...	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	0	0	0	0	1
Wolcott	3,753	3	9.60	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	0	0	0	1	0	0
ROCHESTER	*101.000	166	19.72	76	45.7	0	0	1	0	0	0	0	0	0	12	34	283.14	5	20	5	8	4	12	22	10	9	4	20
Brockport	*4,500	6	11.25	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	3	0	1	1	0
Mendon	3,200	3	11.25	0	.. ...	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	1	1
Brighton	3,736	*a*2	7.50	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	1	0	1	0
Albion	5,147	3	7.16	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	2	0	0	0	0
LOCKPORT	*16,000	*b*6	4.50	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	0	0	1	0	3
Niagara	7,500	11	17 60	5	45.5	0	0	0	0	0	2	0	0	2	0	0	363.36	0	0	1	1	0	1	0	0	2	0	2
BUFFALO	*205,000	*c*280	17.80	154	55.0	7	0	1	1	0	2	9	0	2	15	50	....	13	22	2	16	3	15	48	2	17	5	50
Tonawanda	4,900	6	14.70	4	66.7	0	0	0	0	0	0	0	0	0	0	1	166.67	0	0	1	1	0	1	0	0	0	0	2
Amherst	*4,518	3	8.00	2	66.7	0	0	0	0	0	0	0	0	0	2	0	666.67	0	1	0	0	0	0	0	0	0	0	0
Aurora	*3,000	4	12.67	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	1	0	0	1	2	0	0	0	0
Hamburg	3,235	8	29.65	2	25.0	0	0	0	0	0	4	0	0	0	0	0	500.00	0	0	0	1	0	0	2	0	0	1	0
Rest of district	....	87	....	16	18.4	0	0	1	2	0	0	0	0	0	4	5	137.93	0	10	6	6	4	1	13	4	7	15	9
Totals for the State.	....	9,318	....	5,066	54.4	41	2	61	89	4	89	97	14	77	284	2983	401.37	464	883	107	612	318	392	1052	172	375	413	759

a Eight deaths in public institutions. *b* Returns very incomplete. *c* For four weeks ending July 25.

REMARKS.—The total reported mortality is 9,318; the percentage of infant mortality is 54.4. The ratio per 1,000 of deaths from all zymotic diseases to the total mortality is 401.37. From diarrhœal diseases, the number of deaths from which in June was five times that of May, and is in July nearly as much greater than that of June, the ratio per 1,000 to the total mortality is 320.00; they constitute about 75 per cent of the zymotic mortality. The actual mortality from other zymotic diseases and from consumption is about the same as in June; from acute respiratory diseases it is about one-fourth less. With this issue the totals of mortality for each sanitary district may be found on its caption line. For the month of June 198 delayed returns have been received, of which 53 were under five years of age.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during August, 1885.

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DIST.: Totals	....	4,784	....	2,420	......	14	1	49	79	...	40	22	14	112	165	1157	326.92	337	602	31	277	213	199	388	99	161	218	607
NEW YORK CITY	*1,397,395	2,991	25.68	1,477	49.3	12	1	32	41	0	16	17	8	82	117	675	334.67	215	413	16	176	147	124	240	60	111	163	325
BROOKLYN	*665,602	1,370	24.70	719	52.5	0	0	13	31	0	24	4	5	24	39	342	352.55	100	142	12	81	54	54	111	30	37	32	235
Gravesend	a*9,000	19	23.11	15	79.0	0	0	0	0	0	0	0	0	0	2	11	684.21	2	0	0	1	0	0	1	1	1	0	0
New Lots	*19,000	48	30.32	28	58.32	0	0	0	1	0	0	0	0	2	0	14	354.16	3	9	1	3	2	0	5	0	2	3	3
New Utrecht	4,742	17	43.02	5	29.4	0	0	1	0	0	0	0	0	0	0	2	176.47	0	2	0	1	0	1	4	0	2	0	4
Flatlands	3,127	8	30.70	6	75.0	0	0	0	0	0	0	0	0	0	0	2	250.00	0	1	1	0	0	0	2	0	0	0	2
Newtown	*10,000	31	37.20	16	51.6	0	0	0	2	0	0	0	0	0	0	10	387.10	2	6	0	0	1	1	3	0	0	2	4
Oyster Bay	*12,000	19	19.00	9	47.3	0	0	0	1	0	0	0	0	0	0	6	368.42	0	1	0	1	0	2	4	1	0	2	1
Hempstead	18,160	51	33.70	26	51.0	0	0	0	0	0	0	0	0	0	4	24	549.02	1	7	0	2	1	2	2	0	1	5	2
North Hempstead	7,000	12	20.57	7	58.3	0	0	0	0	0	0	0	0	0	0	6	500.00	0	0	0	0	1	0	2	1	1	1	0
Jamaica	10,089	6	7.13	5	83.3	0	0	0	0	0	0	0	0	0	0	3	500.00	0	1	0	0	0	0	1	0	0	0	1
Babylon	4,739	b4	10.12	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	0	1	0	0	0	1
Southold	7,267	14	23.11	5	35.7	0	0	0	0	0	0	0	0	0	0	4	285.71	1	1	0	3	0	1	1	0	1	1	1
Southampton	6,352	11	20.78	5	45.5	0	0	0	0	0	0	0	0	0	0	3	272.72	1	0	0	1	0	1	1	1	1	1	1
Northfield	7,014	11	18.81	6	54.5	0	0	0	1	0	0	0	0	0	0	4	545.45	0	0	0	0	1	1	0	1	1	0	2
Westfield	5,289	19	43.10	13	68.1	0	0	1	0	0	0	1	1	1	0	7	578.68	4	0	0	1	0	1	0	0	0	1	1
YONKERS	*22,000	54	29.45	29	53.7	1	0	1	2	0	0	0	1	0	2	19	481.48	3	7	1	3	1	4	3	1	0	2	3
Westchester	*6,900	10	17.39	4	40.0	1	0	0	0	0	0	0	0	0	1	0	200.00	0	1	0	1	2	1	0	0	1	0	2
Mount Vernon	*5,000	12	28.80	7	58.4	0	0	1	0	0	0	0	0	0	0	5	500.00	0	0	0	0	1	0	1	1	0	2	1
Rye	*7,500	4	6.40	1	25.0	0	0	0	0	0	0	0	0	1	0	0	250.00	0	0	0	0	0	1	1	0	1	0	0
Sing Sing	*6,500	16	29.53	6	37.5	0	0	0	0	0	0	0	0	0	0	4	250.00	0	5	0	0	1	2	0	1	0	0	3
Rest of district	....	57	....	31	54.4	0	0	0	0	0	0	0	0	0	0	16	280.70	5	5	0	3	0	3	5	1	1	3	15
HUDSON VALLEY DIST.:																												
Totals	....	855	....	371	......	12	...	22	13	...	7	3	...	5	48	196	357.90	30	101	4	57	36	30	84	26	38	48	95
ALBANY	*96,000	163	20.37	68	41.7	2	0	4	0	0	3	0	0	2	18	24	325.15	7	24	1	14	8	5	14	1	4	7	25
COHOES	*20,000	47	28.20	27	57.5	0	0	4	0	0	1	0	0	0	1	14	425.53	2	9	0	1	3	0	3	1	3	2	3
West Troy	*13,000	33	30.46	12	36.4	0	0	4	0	0	0	0	0	0	6	4	424.25	5	2	0	6	0	1	0	0	2	2	1
Hoosick Falls	*4,000	8	24.00	6	75.0	0	0	0	0	0	0	0	0	0	1	1	250.00	1	0	0	1	0	1	1	0	0	0	2
TROY	*60,000	99	19.80	35	35.3	4	0	1	0	0	0	0	0	0	2	21	282.32	3	20	0	7	5	6	6	7	10	4	3
Lansingburgh	8,500	20	28.23	6	30.0	0	0	1	0	0	0	0	0	0	0	4	250.00	0	4	1	0	1	3	1	1	1	3	0

Green Island	*5,000	11	26.40	7	63.6	3	0	1	0	0	0	0	0	0	0	3	636.36	0	0	0	0	0	0	0	1	0	0	3
Greenbush	7,200	14	23.33	6	42.9	0	0	0	1	0	0	0	0	0	1	2	285.71	0	3	0	0	1	0	2	0	0	1	3
Catskill	*4,500	9	24.00	5	55.5	0	0	0	0	0	0	0	0	0	0	4	444.45	0	0	0	0	0	0	1	3	0	0	1
HUDSON	*10,000	29	34.80	17	58.6	0	0	0	0	0	0	0	0	0	4	6	344.83	0	3	0	2	0	1	4	1	1	0	7
KINGSTON	21,100	32	18.19	21	65.6	1	0	1	1	0	2	2	0	0	0	9	500.00	4	3	1	0	0	0	2	1	4	0	1
Wawarsing	8,547	6	8.42	3	50.0	0	0	1	0	0	1	0	0	0	0	1	500.00	0	0	0	1	0	0	1	0	0	1	0
Rosendale	5,000	5	12.00	3	60.0	0	0	0	2	0	0	0	0	0	0	0	400.00	0	0	0	3	0	0	0	0	0	0	0
Marbletown	4,000	5	15.00	3	60.0	0	0	0	1	0	0	0	0	0	0	3	800.00	0	0	0	0	0	0	0	0	0	1	0
Esopus	4,736	8	20.27	2	25.0	0	0	1	0	0	0	0	0	0	1	1	375.00	0	2	0	0	1	0	0	0	0	0	2
Saugerties	4,000	6	18.00	5	83.3	0	0	0	0	0	0	0	0	0	0	4	666.67	0	0	0	1	0	0	0	1	0	0	0
POUGHKEEPSIE	20,207	32	19.01	13	40.6	1	0	0	0	0	0	0	0	0	1	8	312.50	1	3	0	2	1	1	5	1	0	2	6
Fishkill	10,732	21	23.48	6	28.5	0	0	0	0	0	0	0	0	0	0	13	619.05	1	0	0	3	1	0	1	0	1	1	0
Wappinger's Falls	5,000	12	28.80	5	41.7	0	0	0	0	0	0	0	0	0	1	3	333.33	0	2	0	0	1	1	0	0	1	0	3
NEWBURGH	20,000	28	16.80	15	53.5	0	0	0	3	0	0	0	0	0	2	5	357.14	1	4	0	4	1	1	6	0	1	0	0
Port Jervis	9,000	15	20.00	7	46.7	0	0	0	0	0	0	0	0	0	0	4	266.66	0	1	1	0	1	1	0	0	1	1	5
Middletown	10,000	12	14.40	5	41.7	0	0	0	0	0	0	0	0	0	0	5	416.67	0	2	0	1	0	1	2	0	0	1	0
Goshen	4,387	12	32 82	7	58.3	0	0	1	0	0	0	0	0	1	1	2	416.67	2	1	0	0	0	0	1	0	0	2	1
Haverstraw	7,000	14	21.00	8	57.1	0	0	0	0	0	0	0	0	0	0	4	285.71	0	0	0	0	0	0	2	0	2	1	5
Orangetown	8,077	17	25.26	8	47.0	0	0	0	0	0	0	0	0	0	2	7	529.71	0	1	0	0	0	0	3	1	2	1	0
Ramapo	5,000	9	21.60	2	22.2	0	0	0	0	0	0	0	0	1	0	1	222.22	0	0	0	1	0	1	1	1	1	2	0
Rest of district	....	188	....	69	36.7	1	0	3	5	0	0	1	0	1	7	43	321.46	3	17	0	10	12	7	28	6	4	16	24
ADIRONDACK & NORTHERN DISTRICT: Totals	....	217	....	71	......	1	...	3	1	...	...	1	1	5	13	41	304.15	1	27	1	13	7	18	29	10	11	10	21
Argyle	3,700	3	9.73	0	....	0	0	1	0	0	0	0	0	0	0	1	666.67	0	0	0	0	0	0	0	0	0	0	1
Greenwich	3,861	3	9.50	2	66.6	0	0	0	0	0	0	0	0	1	0	1	666.67	0	0	0	0	0	0	0	0	0	0	1
Fort Ann	4,267	3	8.84	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	1	0	0	0
Fort Edward	4,680	8	13.67	3	37.5	0	0	0	0	0	0	0	0	1	0	2	375.00	0	0	0	1	0	0	0	1	2	0	1
Queensbury	10,000	20	24.00	10	50.0	0	0	0	0	0	0	0	0	0	0	8	400.00	0	4	0	0	0	0	5	1	0	1	1
Crown Point	4,287	6	16.80	5	83.3	0	0	0	0	0	0	0	0	0	1	3	666.67	0	0	0	1	0	0	1	0	0	0	0
Port Henry	2,525	3	14.25	2	66.7	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	1	0	0	0	0	1
Malone	7,908	12	18.23	3	25.0	0	0	0	0	0	0	0	0	0	1	2	250.00	0	1	1	0	1	0	1	0	3	1	1
OGDENSBURG	11,000	17	18.54	5	29.1	0	0	1	0	0	0	0	0	0	1	3	294.12	0	2	0	0	0	3	3	1	0	2	1
Gouverneur	5,000	11	24.20	5	45.5	1	0	0	0	0	0	0	0	0	3	2	545.45	0	0	0	0	0	0	2	0	0	1	2
Ellisburgh	4,812	6	14.96	0	......	0	0	0	0	0	0	0	0	0	1	0	166.67	0	2	0	1	0	0	2	0	0	0	0
WATERTOWN	13,000	10	9.23	1	10.0	0	0	0	0	0	6	0	0	0	1	0	100.00	0	1	0	1	0	1	2	2	1	0	1
Cape Vincent	3,143	1	3.80	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	0	0
Rest of district	....	114	....	38	33.3	0	0	1	1	0	0	1	1	3	5	19	271.05	1	16	0	9	5	12	12	4	8	5	11
MOHAWK VALLEY DIST.: Totals	....	338	....	141	......	7	...	9	1	...	3	...	1	...	3	87	327.35	11	47	1	14	8	31	39	10	11	16	39
SCHENECTADY	*15,000	32	25.60	19	59.1	0	0	1	0	0	2	0	0	0	0	7	312.50	1	9	0	1	0	3	3	0	2	0	3
Schoharie	3,359	3	10.75	2	66.6	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	1	0	0	0	0
Middleburgh	3,376	2	7.13	1	50.0	0	0	0	0	0	0	0	0	0	0	1	500.00	0	0	0	0	0	0	1	0	0	0	0
AMSTERDAM	13,000	25	23.08	14	56.0	0	0	1	0	0	0	0	0	0	0	8	360.00	0	3	0	2	1	1	5	1	1	2	0
Johnstown	*6,000	8	16.00	3	37.5	0	0	0	0	0	0	0	0	0	0	2	250.00	0	0	0	0	0	4	1	1	0	0	0
Gloversville	*8,000	11	15.12	5	45.5	0	0	0	0	0	1	0	0	0	0	2	375.01	0	0	0	1	0	1	1	1	1	1	2
Little Falls	7,300	8	13.15	4	50.0	0	0	0	0	0	0	0	0	0	0	4	500.00	0	1	0	0	0	0	2	0	0	0	1
Ilion	4,500	11	29.33	7	63.7	0	0	0	0	0	0	0	0	0	0	3	272.27	1	2	0	2	0	0	3	0	0	0	0
Herkimer	3,000	3	12.00	3	100.0	0	0	0	0	0	0	0	0	0	0	2	666.67	1	0	0	0	0	0	0	0	0	0	0
UTICA	39,000	80	24.61	32	40.0	7	0	3	0	0	0	0	0	0	1	23	425.00	2	11	0	1	1	6	11	2	1	0	11
Rome	12,045	18	18.00	4	22.2	0	0	0	0	0	0	0	0	0	0	4	222.22	1	4	0	0	1	1	0	2	1	1	3
Boonville	4,000	5	15.00	1	20.0	0	0	0	0	0	0	0	0	0	0	1	200.00	2	1	0	0	1	0	0	0	0	0	0
Camden	3,400	3	10.58	0	......	0	0	0	0	0	0	0	1	0	0	0	333.33	0	0	0	0	0	1	0	0	1	0	0

a Including transient population. *b* Besides 3 in public institutions.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of—	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MOHAWK VALLEY DIST.:																												
Waterford	4,328	11	30.50	3	27.2	0	0	0	0	0	0	0	0	0	0	3	272.72	2	1	0	0	0	2	0	0	0	2	1
Ballston Spa	*3,300	11	40.00	5	45.4	0	0	0	1	0	0	0	0	0	0	2	272.72	0	0	1	0	0	0	3	0	1	2	1
Saratoga Springs	10,000	33	39.60	9	32.7	0	0	0	0	0	0	0	0	0	1	9	303.03	0	7	0	4	2	4	0	1	1	2	2
Rest of district	....	74	....	29	40.3	0	0	4	0	0	0	0	0	0	1	16	277.78	0	7	0	3	2	8	8	2	2	6	15
SOUTHERN TIER DIST.:																												
Totals	....	202	....	78	......	3	...	5	4	...	1	...	...	...	5	37	272.77	7	22	1	23	5	13	29	9	10	11	17
BINGHAMTON	*20,000	34	20.40	17	50.0	0	0	0	1	0	0	0	0	0	0	7	335.30	1	2	0	5	0	2	9	1	1	1	4
Owego	*6,000	9	18.00	5	55.5	0	0	0	0	0	0	0	0	0	0	3	333.33	0	2	0	0	0	0	0	0	2	1	1
Candor	4,323	5	13.88	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	1	1	0	0	0	0	0	1
ELMIRA	*25,000	36	17.28	14	36.1	0	0	0	2	0	0	0	0	0	0	7	250.00	1	5	0	3	1	3	7	5	2	0	0
Horseheads	3,500	2	6.45	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	1	0
Bath	7,400	17	27.57	4	23.5	0	0	0	0	0	0	0	0	0	1	3	235.30	0	1	0	2	1	1	3	2	0	0	3
Olean	8,000	11	15.12	8	72.7	0	0	0	0	0	0	0	0	0	1	5	545.45	1	1	0	0	0	0	1	0	1	1	0
Jamestown	12,000	25	25.00	8	32.0	2	0	0	0	0	0	0	0	0	0	2	160.00	1	2	0	9	0	2	2	0	1	2	2
Westfield	3,000	3	12.00	1	33.3	0	0	0	0	0	0	0	0	0	0	1	333.33	0	1	1	0	0	0	0	0	0	0	0
Fredonia	2,800	4	17.10	0	......	0	0	1	0	0	0	0	0	0	0	0	250.00	1	0	0	0	0	0	0	0	0	2	0
Rest of district	....	56	....	21	37.5	1	0	4	1	0	1	0	0	0	3	9	329.21	2	5	0	3	2	5	7	1	3	3	6
EAST CENTRAL DIST.:																												
Totals	....	271	....	102	......	4	...	4	2	...	2	...	1	1	3	67	311.11	12	28	4	11	12	20	27	10	9	16	38
Franklin	3,000	1	4.00	1	100.0	0	0	0	0	0	0	0	0	0	0	1	1000	0	0	0	0	0	0	0	0	0	0	0
Delhi	3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	0	1
Walton	3,541	2	6.85	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	2	0	0	0	0	0	0	0
Cooperstown	*3,000	6	24.00	2	33.3	1	0	0	0	0	0	0	0	0	0	1	333.33	2	1	0	0	1	0	0	0	0	0	0
Oneonta	*5,000	11	26.40	7	63.7	0	0	0	0	0	0	0	0	0	0	5	454.55	1	1	0	0	1	0	1	1	0	0	1
Worcester	*3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	1	0	0	0
Cazenovia	4,363	4	11.50	0	......	0	0	0	0	0	0	0	0	0	0	1	250.00	0	2	0	0	0	0	0	0	0	1	0
Oneida	....	6	....	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	0	1	3
Baldwinsville	3,000	3	12.00	1	33.3	0	0	0	0	0	0	0	0	0	0	1	333.33	0	0	0	1	0	1	0	0	0	0	0
SYRACUSE	65,000	117	21.60	63	53.8	1	0	0	1	0	1	0	1	0	1	40	384.61	1	11	2	5	4	4	11	4	6	5	19
Geddes	7,000	12	20.57	6	50.0	0	0	0	1	0	1	0	0	0	0	4	500.00	0	1	0	0	0	1	1	0	0	1	2
Cortland	7,361	5	8.15	2	40.0	0	0	1	0	0	0	0	0	0	0	1	400.00	0	0	0	0	0	0	1	0	0	0	2
Homer	*3,000	5	20.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	2	0	2	0	0	0
Rest of district	....	96	....	19	15.0	2	0	3	0	0	0	0	0	1	2	13	222.23	8	8	2	3	6	11	12	2	3	8	10

WEST CENTRAL DIST.:																										
Totals.......	....	172	....	39	....	1	...	3	2	...	...	1	1	...	3	34	261.05	5	19	3	7	13	12	24	8	8	19	9
AUBURN............	*26,000	47	21.70	17	36.2	0	0	0	0	0	0	1	1	0	2	15	442.55	3	6	1	1	1	2	8	3	1	0	3
Ithaca..........................	10,000	12	14.40	4	33.3	0	0	0	0	0	0	0	0	0	0	6	500.00	0	1	0	1	0	1	3	0	0	0	0
Waterloo	*4,500	7	18.66	1	14.3	0	0	1	0	0	0	0	0	0	0	1	285.71	0	2	1	0	0	0	0	0	0	2	0
Seneca Falls	6,853	11	19.26	4	36.4	1	0	0	0	0	0	0	0	0	0	2	272.71	0	1	0	1	1	1	1	0	0	2	1
Manchester	*4,000	1	3.00	1	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	0
Phelps.........................	*7,000	5	8.57	0	.. ..	0	0	1	0	0	0	0	0	0	0	1	400.00	0	0	1	0	0	0	0	1	1	0	0
Geneva	*6,000	9	18.00	1	11.1	0	0	0	0	0	0	0	0	0	0	1	111.11	0	1	0	1	1	1	1	0	1	1	1
Attica.........	3,100	3	12.00	1	33.3	0	0	0	0	0	0	0	0	0	0	2	666.66	0	0	0	0	0	1	0	0	0	0	0
Penn Yan........	*4,500	6	16.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	1	0	0	0	0	2	1
Lima	*2,800	1	4.28	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	1	0
Rest of district	.. ..	70	. ...	10	14.3	0	0	1	2	0	0	0	0	0	1	6	142.85	2	7	0	2	9	7	10	4	5	11	3
LAKE ONTARIO & WESTERN DIST.: Totals...	... .	445	....	180	. ....	1	...	9	1	...	4	1	...	...	20	100	307.00	16	49	9	28	13	24	55	20	16	28	49
OSWEGO	*24,000	28	11.00	12	42.8	0	0	0	0	0	0	0	0	0	0	8	285.72	0	5	0	2	0	2	5	2	2	0	2
Lyons	4,500	19	50.66	4	21.1	0	0	0	0	0	0	0	0	0	1	3	210.53	0	1	0	3	0	3	3	2	2	1	0
Newark	*3,500	4	13.74	2	50.0	0	0	0	0	0	0	0	0	0	0	2	500.00	0	1	0	0	0	0	0	0	0	1	0
Palmyra	*4,800	6	15.00	1	16.6	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	0	1	0	2	1
Wolcott.	3,753	1	3.19	0	......	0	0	0	0	0	0	0	0	0	0	0	. ...	0	0	0	0	0	0	0	0	0	1	0
ROCHESTER................	*101,000	204	24.23	99	48.5	0	0	2	0	0	0	0	0	0	9	48	284.36	12	28	4	11	6	10	27	8	7	6	28
Brockport.....	4,500	7	18.66	3	42.7	0	0	0	1	0	0	0	0	0	0	4	714.28	0	1	0	0	0	1	0	0	0	0	0
Greece	*5,000	5	12.00	0	.. . ..	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	1	1	0	1	0	0
Mendon.....................	3,200	3	11.25	2	66.6	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	1	2
Brighton....................	3,736	*a*8	25.69	3	37.5	0	0	0	0	0	0	1	0	0	0	2	375.00	0	2	1	0	0	0	0	0	1	1	0
LOCKPORT	16,000	9	6.75	5	55.5	0	0	0	0	0	0	0	0	0	0	4	444.45	0	1	0	1	2	0	1	0	0	0	0
Tonawanda	4,900	13	31.83	7	54.0	0	0	0	0	0	0	0	0	0	0	7	540.00	1	0	0	0	0	1	1	0	0	2	1
Amherst	4,518	1	10.62	2	50.0	0	0	1	0	0	0	0	0	0	1	1	750.00	0	0	0	0	0	0	1	0	0	0	0
Hamburg..................	3,235	3	11.13	1	33.3	0	0	0	0	0	0	0	0	0	0	1	333.33	0	1	0	0	0	0	0	0	0	0	1
Aurora	3,000	6	24.00	4	33.3	0	0	0	0	0	0	0	0	0	0	4	333.33	0	1	0	0	0	0	0	1	0	0	0
Rest of district.........	....	125	....	35	28.5	1	0	6	0	0	4	0	0	0	9	18	300.81	3	7	4	11	4	6	16	6	3	13	14
Totals for the State.	....	7,284	....	3,405	46.7	43	1	104	103	...	57	28	19	123	260	1719	337.31	419	895	54	430	307	347	675	192	267	366	875

REMARKS.— The total reported mortality for the month is 7,284, being considerable less than for July. This is partly accounted for by the failure of Buffalo and Long Island City and several large villages to make reports. The percentage of infant mortality is 46.73; in July it was 54.4, and in June 40.0 per cent. The ratio per 1,000 of deaths from all zymotic diseases to the total mortality is 337.31; that from diarrhœal diseases being 236.00, or about 70 per cent of the total zymotic mortality. From consumption the ratio per 1,000 is 128.87 (the lowest for the year), and from acute respiratory diseases, 57.52. For the month of July 450 delayed returns have been received, of which 85 were under five years of age.

a Also 12 deaths in public institutions.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during September, 1885.

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of—	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DIST.: Totals	....	4,112	....	1,708	41.6	18	...	69	89	5	23	7	7	77	203	591	....	354	611	34	257	218	195	363	85	175	222	479
NEW YORK CITY	*1,397,395	2,647	22.73	1,163	41.0	17	0	49	41	5	4	5	4	56	135	384	264.45	238	415	25	166	177	127	222	56	100	174	247
BROOKLYN	*665,602	1,126	20.30	521	46.2	0	0	14	31	0	17	0	2	17	55	165	270.00	95	158	6	73	54	52	102	21	45	30	186
Gravesend	*7,000	12	20.57	6	50.0	0	0	0	3	0	0	0	0	0	1	4	666.67	0	0	0	0	0	0	1	0	3	0	0
New Lots	*19,000	45	28.42	24	53.3	0	0	0	2	0	0	0	0	1	2	6	244.42	1	6	0	2	0	2	11	0	1	4	7
New Utrecht	4,742	13	26.91	6	46.1	0	0	0	0	0	0	0	0	0	1	1	153.85	0	0	0	1	0	0	1	0	4	1	4
Flatlands	3,127	7	26.85	2	28.6	0	0	0	0	0	0	0	0	0	1	5	857.15	0	0	0	0	0	0	0	1	0	0	0
Newtown	*10,000	26	31.20	12	16.1	0	0	1	1	0	1	0	0	1	1	3	444.44	2	5	0	1	0	0	1	0	0	1	7
Oyster Bay	*12,000	13	13.00	2	15.4	0	0	0	0	0	0	0	0	0	0	0	....	1	3	0	0	1	1	1	1	3	1	1
Hempstead	18,160	12	8.00	5	43.4	0	0	1	0	0	0	0	1	1	0	2	434.34	2	2	0	1	1	0	0	0	0	0	1
North Hempstead	8,000	11	16.50	3	27.3	0	0	0	1	0	0	0	0	0	0	1	181.82	1	0	1	1	0	2	2	0	0	2	0
Babylon	4,739	4	10.00	0	....	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	0	1	0	0	0	1
Southold	7,267	14	20.01	3	21.4	0	0	0	0	0	0	0	0	0	0	1	100.00	0	2	2	1	0	0	0	0	2	1	5
Southampton	6,352	7	13.23	2	28.6	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	0	2	0	1	0	0	0	0
Edgewater	*10,000	14	16.80	7	50.0	0	0	0	1	0	1	0	0	0	1	1	285.71	2	3	0	0	1	0	2	0	0	0	2
Northfield	7,014	11	18.86	3	27.3	0	0	1	1	0	0	0	0	0	0	0	181.82	0	1	0	1	0	1	2	1	1	1	1
Westfield	5,289	15	33.96	6	40.0	0	0	0	1	0	0	2	0	0	1	1	333.33	3	1	0	3	0	0	1	0	2	0	0
YONKERS	*22,000	31	16.91	13	42.0	0	0	0	0	0	0	0	0	1	0	7	258.06	3	2	0	1	5	2	4	0	3	0	3
Westchester	*6,900	10	17.40	6	60.0	1	0	0	0	0	0	0	0	0	2	1	400.00	1	1	0	0	1	0	1	1	0	0	1
Mount Vernon	*5,000	9	21.60	4	44.5	0	0	0	0	0	0	0	0	0	0	2	222.22	0	0	0	2	0	2	0	0	1	0	2
Rye	3,500	5	17.15	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	2	0	1	1	0	0	0	0
Sing Sing	*6,500	13	24.00	4	30.7	0	0	0	0	0	0	0	0	0	0	2	153.80	0	0	0	0	1	1	2	0	0	4	3
Rest of district	....	68	....	15	23.8	0	0	3	4	0	0	0	0	0	3	5	....	2	9	0	2	4	4	7	4	10	3	8
HUD. VAL. DIST.: Totals	....	735	....	229	31.2	9	...	26	8	...	6	1	2	8	65	81	....	38	102	13	47	28	52	93	11	31	61	53
ALBANY	*96,000	180	22.50	65	36.1	0	0	7	0	0	1	0	0	2	31	11	305.55	4	31	2	15	6	15	23	1	8	6	14
COHOES	*20,000	12	7.20	4	33.3	0	0	1	1	0	1	0	0	0	0	2	416.67	1	1	0	1	1	0	0	0	0	2	1
West Troy	*13,000	26	23.85	8	30.8	0	0	1	0	0	0	0	0	0	2	6	246.15	4	1	0	1	2	1	4	0	1	2	1
Hoosick Falls	*4,000	12	36.00	4	33.3	0	0	0	0	0	0	0	0	0	3	0	250.00	1	1	0	0	0	2	2	0	0	3	0
TROY	*60,000	107	21.40	42	39.1	8	0	6	0	0	0	0	1	1	1	23	373.83	11	17	5	2	2	6	10	2	3	6	3
Lansingburgh	8,500	15	21.17	6	40.0	0	0	0	0	0	1	0	0	0	0	3	266.67	0	2	1	0	1	2	1	0	1	1	2

Green Island	*5,000	5	12.00	2	40.0	0	0	1	0	0	0	0	0	0	0	0	200.00	0	0	1	0	0	0	1	0	0	1	1
Greenbush	7,200	13	21.67	2	15.4	0	0	1	0	0	0	0	0	0	1	0	153.85	0	3	0	0	1	1	3	2	1	0	0
Catskill	*4,500	8	21.33	2	25.0	0	0	0	0	0	0	0	0	0	2	1	375.00	1	0	0	0	0	2	2	0	0	0	0
HUDSON	*10,000	19	22.80	7	36.8	0	0	0	0	0	0	0	0	0	2	0	105.26	1	2	0	0	1	1	6	0	1	2	8
KINGSTON	21,100	28	15.92	14	50.0	0	0	0	1	0	1	1	0	0	3	4	357.14	0	2	1	2	2	4	4	0	2	1	0
Wawarsing	8,547	8	11.23	0	......	0	0	1	0	0	0	0	0	0	0	1	125.00	0	0	1	1	0	3	0	0	0	1	0
Rosendale	5,000	3	7.20	2	66.6	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	2	0	0	0	0
Marbletown	4,000	3	9.00	0	....	0	0	0	1	0	1	0	0	0	0	0	666.67	0	0	0	0	0	0	0	0	0	1	0
Esopus	4,736	7	18.00	2	28.6	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	1	0	0	2	0	0	2	1
Saugerties	4,000	4	12.00	2	50.0	0	0	0	0	0	0	0	0	0	0	1	250.00	0	1	0	0	0	0	0	0	0	1	1
POUGHKEEPSIE	20,200	23	13.66	4	17.4	0	0	0	1	0	0	0	0	0	0	1	87.00	1	5	0	2	2	2	3	0	1	2	3
Fishkill	10,732	14	11.50	3	20.0	0	0	0	0	0	0	0	0	0	4	1	357.15	1	2	0	2	0	0	0	0	1	0	3
Wappinger's Falls	5,000	5	12.00	0	......	0	0	0	1	0	0	0	0	0	0	0	200.00	0	2	0	0	0	2	0	0	0	0	0
NEWBURGH	20,000	25	15.00	5	20.0	0	0	0	2	0	0	0	0	0	3	0	200.00	2	3	0	4	1	2	4	0	2	0	2
Port Jervis	9,000	8	10.66	2	25.0	0	0	1	0	0	0	0	0	0	0	0	125.00	2	1	0	2	0	0	0	0	0	1	1
Middletown	10,000	15	18.00	2	13.3	0	0	3	0	0	0	0	0	0	0	0	200 00	0	2	0	1	2	0	2	0	0	3	2
Goshen	4,387	9	24.51	4	44.5	0	0	1	0	0	0	0	0	1	1	0	333.33	0	1	0	1	0	0	1	0	0	1	2
Haverstraw	7,000	17	29.14	9	53.0	0	0	0	0	0	0	0	0	1	0	5	352.94	0	2	0	0	1	0	2	1	2	2	1
Ramapo	5,000	2	4.80	1	50.0	0	0	0	0	0	0	0	0	0	0	1	500.00	0	0	0	0	0	0	0	0	0	1	0
Rest of district	....	167	....	37	22.5	1	0	3	1	0	1	0	1	3	9	21	... .	8	23	2	12	6	8	21	5	8	22	12
ADIRONDACK & NORTHERN DIST.: Totals.	....	218	....	61	30.0	2	...	15	2	...	2	...	2	3	12	21	....	8	25	4	21	5	19	24	6	6	18	23
Argyle	3,700	4	13.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	1	0	0	1	0
Greenwich	3,861	5	15 55	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	1	1	0	0	0	1
Fort Ann	4,267	4	11.25	2	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	1	2	0	0	0	0	0	0	1
Fort Edward	4,680	5	12.29	2	40.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	2	1	0	0	0	1	0	1
Queensbury	10,000	13	15.60	3	23.1	0	0	0	0	0	0	0	0	0	0	1	76.92	1	3	0	0	0	2	3	2	0	1	0
Port Henry	2,525	4	19.00	4	100.0	0	0	0	0	0	0	0	0	0	0	2	500.00	0	0	0	1	0	0	0	0	0	0	1
Malone	7,908	17	25.00	11	64.7	0	0	2	0	0	2	0	0	0	6	1	666.66	1	0	0	0	0	0	1	0	0	2	2
OGDENSBURG	11,000	13	14.18	3	23.1	0	0	0	0	0	0	0	0	2	0	1	230.07	0	4	1	2	1	1	0	0	0	0	1
Gouverneur	5,000	12	28.80	7	58.3	0	0	1	0	0	0	0	0	0	2	4	583.33	0	2	0	3	0	0	0	0	0	0	0
Ellisburgh	4,812	2	5.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	1	0	0	0	0	0	0	1	0
Plattsburgh	*7,000	6	....	1	16.6	0	0	1	0	0	0	0	0	0	0	0	156.67	0	2	0	1	0	0	1	0	0	1	0
WATERTOWN	*12,269	16	15.13	5	31.3	0	0	1	1	0	0	0	0	0	0	0	125.00	4	1	0	1	1	2	2	0	1	0	2
Cape Vincent	3,143	5	19.10	0	......	0	0	1	0	0	0	0	0	0	0	0	200.00	0	1	0	0	0	2	0	0	1	0	0
Rest of district	....	112	....	26	23.2	2	0	9	1	0	0	0	2	1	4	12	....	2	9	1	9	2	10	15	4	3	12	14
MOHAWK VALLEY DIST.: Totals	....	235	....	69	29.3	...	...	6	2	...	...	...	...	3	7	27	....	17	33	6	21	5	16	37	7	15	17	16
SCHENECTADY	15,000	24	18.67	10	41.6	0	0	0	0	0	0	0	0	0	2	1	125.00	1	3	1	1	0	2	5	1	3	3	1
Middleburgh	3,376	4	14.23	1	25.0	0	0	0	0	0	0	0	0	6	0	0	....	2	1	0	0	0	1	0	0	0	0	0
AMSTERDAM	13,000	18	16.15	8	44.4	0	0	2	0	0	0	0	0	0	1	3	333.33	0	2	0	4	0	0	2	0	2	1	1
Johnstown	*6,000	9	18.00	2	22.2	0	0	0	0	0	0	0	0	0	0	2	222.22	2	1	2	1	0	0	1	0	0	0	0
Gloversville	*8,000	9	13.50	4	44.4	0	0	1	0	0	0	0	0	0	0	1	222.22	0	0	0	0	0	0	4	0	2	0	1
Little Falls	7,300	8	13.15	1	12.5	0	0	0	0	0	0	0	0	0	1	0	125.00	0	1	0	1	1	0	1	1	1	1	0
Ilion	4,200	7	20.00	3	42.8	0	0	1	1	0	0	0	0	1	0	1	585.85	1	1	0	0	0	0	0	0	0	1	0
Herkimer	3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	1	500.00	0	0	0	0	0	0	0	0	1	0	0
UTICA	*39,000	42	12.80	8	19.0	0	0	0	0	0	0	0	0	0	2	4	142.86	2	9	1	2	1	4	9	3	2	2	1
ROME	12,045	20	20.00	7	35.0	0	0	0	0	0	0	0	0	0	0	6	300.00	1	1	0	0	0	1	7	0	0	3	1
Boonville	4,000	2	6.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	0	0	0
Camden	3,400	3	10.59	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	0	0	0	1	0
Waterford	4,326	6	16.64	2	33.3	0	0	0	0	0	0	0	0	0	0	1	166.67	0	0	0	4	1	0	0	0	0	0	0
Ballston Spa	3,300	7	25.45	2	28.6	0	0	0	1	0	0	0	0	0	0	1	285.71	0	2	0	0	0	1	1	0	0	0	1
Saratoga Springs	10,000	20	24.00	5	25.0	0	0	1	0	0	0	0	0	1	0	1	150.00	4	3	0	3	0	2	2	1	0	0	2
Rest of district	....	54	....	14	26.0	0	0	1	0	0	0	0	0	1	1	5	....	4	7	2	5	2	4	4	1	4	5	8

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
SOUTHERN TIER DIST.:																												
Totals	....	142	....	31	22.1	...	...	7	1	...	1	...	...	4	1	13	....	10	13	...	10	2	11	24	5	11	12	17
BINGHAMTON	*20,000	16	9.60	1	6.2	0	0	0	1	0	0	0	0	1	0	0	125.00	1	2	0	0	0	2	1	1	2	2	3
Candor	4,323	3	8.33	1	33.3	0	0	1	0	0	0	0	0	0	0	1	666.66	0	0	0	0	0	0	0	1	0	0	0
ELMIRA	25,000	24	11.52	9	37.5	0	0	1	0	0	0	0	0	0	1	1	125.00	2	1	0	5	1	1	3	2	3	0	3
Horseheads	3,500	3	10.29	1	33.3	0	0	1	0	0	0	0	0	0	0	1	666.66	0	1	0	0	0	0	0	0	0	0	0
Hornellsville	*10,000	11	13.20	2	18.2	0	0	2	0	0	0	0	0	0	0	2	363.63	0	1	0	0	0	2	0	0	0	2	2
Bath	7,600	10	16.22	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	1	0	1	2	0	0	4	1
Olean	8,000	9	13.50	6	66.6	0	0	0	0	0	1	0	0	2	0	1	444.44	1	0	0	1	0	0	0	0	1	0	2
Jamestown	12,000	10	10.00	2	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	1	0	0	3	0	4	0	0
Fredonia	2,800	2	8.57	1	50.0	0	0	0	0	0	0	0	0	0	0	1	500.00	0	0	0	0	0	0	1	0	0	0	0
Rest of district	....	54	....	8	14.3	0	0	2	0	0	0	0	0	1	0	6	....	4	7	0	2	1	5	14	1	1	4	6
EAST CENTRAL DIST.:																												
Totals	....	218	....	61	28.0	3	...	4	5	..	1	1	...	2	...	31	....	12	29	...	17	6	21	21	2	12	20	28
Franklin	3,000	1	4.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	0	0
Hancock	3,238	2	7.20	1	50.0	0	0	0	0	0	0	1	0	0	0	0	500.00	0	0	0	1	0	0	0	0	0	0	0
Walton	3,541	7	23.43	1	14.3	0	0	0	0	0	0	0	0	0	0	1	142.86	1	0	0	0	0	1	2	1	1	0	0
Delhi	3,000	7	28.00	3	42.6	0	0	0	0	0	0	0	0	1	0	2	....	0	0	0	1	0	1	0	0	0	2	[illegible]
Otsego	4,700	3	7.66	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	2	[illegible]
Oneonta	*5,000	8	19.20	3	42.9	0	0	0	0	0	0	0	0	0	0	3	428.57	0	0	0	1	0	0	2	0	0	0	2
Oneida	*5,000	4	9.60	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	1	0	2	0	0	0	0	[illegible]
Canastota	2,500	2	9.60	0	......	0	0	0	1	0	0	0	0	0	0	0	500.00	0	0	0	0	0	0	0	0	0	1	0
Baldwinsville	3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	0	1
SYRACUSE	65,000	93	17.17	26	28.0	2	0	1	2	0	0	0	0	0	0	12	182.80	3	16	0	5	2	6	10	1	8	8	[illegible]
Geddes	7,000	4	6.86	0	......	0	0	0	2	0	0	0	0	0	0	0	500 00	0	2	0	0	0	0	0	0	0	0	[illegible]
Cortland	7,361	9	14.60	4	44.4	0	0	0	0	0	0	0	0	0	0	3	333.33	1	0	0	0	0	3	1	0	0	1	[illegible]
Homer	8,000	5	20.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	1	0	0	2	[illegible]
Rest of district	....	71	....	22	31.0	1	0	3	0	0	1	0	0	1	0	13	....	4	9	0	7	4	8	5	0	3	10	2
WEST CENTRAL DIST.:																												
Totals	....	128	....	27	21.1	1	..	4	1	...	...	...	...	1	2	15	....	8	20	...	10	4	12	26	4	2	7	11
AUBURN	*26,000	26	12.00	5	19.2	1	0	0	0	0	0	0	0	0	0	4	192.30	2	6	0	2	0	2	4	2	1	1	1
Ithaca	10,000	3	3.60	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	1	0	0	[illegible]
Waterloo	4,500	5	13.33	2	40.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	2	0	0	0	1

Hector	*5,000	3	7.20	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	1	0	0	0	0	0
Seneca Falls	6,853	14	24.50	7	50.0	0	0	1	0	0	0	0	0	0	0	4	357.57	1	2	0	2	0	0	1	0	0	1	2
Manchester	*4,000	2	6.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	0	0	0	0	0	1
Phelps	*7,000	6	10.29	2	33.3	0	0	1	0	0	0	0	0	0	2	1	666.67	0	0	0	0	1	0	1	0	0	0	0
Canandaigua	6,300	1	2.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	0	0	0	0	0	0
Geneva	*6,000	8	21.00	1	12.5	0	0	0	1	0	0	0	0	0	0	0	142.85	0	0	0	2	0	3	2	0	0	0	0
Le Roy	3,000	6	24.00	1	16.6	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	2	0	0	1	0	0	1	0
Rest of district	....	64	......	8	14.8	0	0	2	0	0	0	0	0	1	0	6	....	4	7	0	2	1	5	14	1	1	4	6
LAKE ONTARIO & WESTERN DIST.: Totals.	....	463	....	120	25.9	2	...	14	2	...	6	1	1	...	24	57	....	28	53	2	29	18	32	63	17	19	41	54
OSWEGO	*24,000	24	12.00	12	50.0	0	0	0	0	0	0	0	0	0	0	6	250.00	0	3	0	1	1	1	5	0	1	2	4
Fulton	4,000	8	24.00	0	......	0	0	1	0	0	0	0	0	0	0	0	125.00	1	1	0	1	0	0	2	0	1	1	0
Lyons	4,500	13	34.66	2	15.4	0	0	0	0	0	0	0	0	0	0	0	....	2	3	0	2	0	0	1	0	3	2	0
Newark	3,500	3	10.30	1	33.0	0	0	0	0	0	0	0	0	0	0	1	333.33	0	0	0	0	0	1	0	0	0	1	0
Arcadia	6,700	2	4.80	2	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	0	2
Palmyra	4,800	8	20.00	3	37.5	0	0	1	0	0	0	0	0	0	0	2	375.00	0	1	0	2	0	0	0	0	0	1	1
Wolcott	3,753	2	7.00	1	50.0	1	0	0	0	0	0	0	0	0	0	0	500.00	0	0	0	0	0	0	0	0	0	0	1
ROCHESTER	*101,000	152	18.06	48	31.6	0	0	5	0	0	2	0	0	0	12	11	197.37	10	24	0	7	8	14	20	6	7	6	20
Brockport	4,500	6	16.00	1	16.6	0	0	1	0	0	0	0	0	0	0	0	166.67	0	0	0	0	0	0	1	0	1	1	2
Mendon	3,200	7	26.25	2	28.6	0	0	0	0	0	0	0	0	0	0	1	142.85	1	0	0	0	1	0	2	1	0	0	1
Brighton	3,736	5	16.00	0	......	0	0	0	0	0	0	0	0	0	1	1	400.00	1	1	0	0	0	0	0	1	0	0	0
LOCKPORT	16,000	20	15.00	0	......	1	0	0	0	0	0	0	0	0	0	1	100.00	5	2	0	0	0	2	4	1	0	0	4
Niagara	7,500	7	11.20	4	57.1	0	0	1	0	0	0	0	0	0	1	3	714.28	0	1	0	0	0	1	0	0	0	0	0
Tonawanda	4,900	10	24.06	4	40.0	0	0	0	1	0	1	0	0	0	0	2	400.00	0	0	0	1	0	0	2	1	0	2	0
Amherst	4,518	1	2.60	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	1	0
Hamburg	3,235	1	3.80	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	1	0
Aurora	3,000	8	32.00	5	62.5	0	0	0	0	0	0	0	0	0	0	4	500.00	0	1	0	0	0	0	1	0	0	0	2
Rest of district	....	186	....	35	19.0	0	0	5	1	0	3	1	1	0	10	25	....	8	16	2	15	8	13	25	7	6	23	17
Totals for the State.	....	6,251	....	2,309	37.0	35	...	145	110	5	39	10	12	98	314	839	241.08	475	886	59	412	316	358	651	137	271	398	681

REMARKS.—The total reported mortality for the month is 6,251, the percentage of infant mortality being 37.0. For the three summer months the average monthly mortality was 8,268, the percentage of infant mortality being 41.1, and the ratio per 1,000 of deaths from all zymotic diseases being 325.75, diarrhœal diseases causing 222 per 1,000 of all deaths. For this month the ratio per 1,000 of deaths from all zymotic diseases is 241.08; from diarrhœal diseases, 134.22; from typhoid fever, 23.20. From consumption the ratio per 1,000 is 141.74, and from acute respiratory diseases, 76.00. Deaths from small-pox are reported from New York city alone. For the month of August 182 additional delayed returns have been received, of which 52 were under five years of age.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during October, 1885.

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DIST. Totals	....	3,806	......	1,388	......	14	4	75	59	3	45	3	10	52	276	237	....	396	651	40	214	228	213	372	100	161	198	153
NEW YORK CITY	*1,397,395	2,392	20.51	872	36.1	13	2	50	35	3	14	2	4	35	155	170	201.28	253	439	23	125	163	125	213	68	95	159	246
BROOKLYN	*665,600	1,079	19.44	402	37.5	0	2	22	18	0	21	1	4	10	87	56	205.55	115	159	14	64	51	66	127	25	38	22	173
Gravesend	5,000	1	2.20	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	0	0	0	0	0	0
New Lots	19,000	40	25.26	24	60.0	0	0	0	1	0	1	0	0	0	5	0	175.00	2	6	0	9	0	2	5	0	2	0	7
New Utrecht	4,742	6	15.20	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	1	2	0	0	0	2
Flatlands	3,127	5	19.35	4	80.0	0	0	0	0	0	0	0	0	0	1	1	200.00	0	0	0	1	0	1	1	0	0	0	0
LONG ISLAND CITY	*21,000	28	16.00	13	46.5	0	0	1	1	0	0	0	0	2	5	0	321.42	3	3	1	2	1	0	2	1	3	0	3
Newtown	*10,000	27	32.40	10	47.0	0	0	1	1	0	4	0	0	0	5	0	407.40	3	2	0	3	0	0	0	0	0	4	4
Oyster Bay	*12,000	10	10.00	1	10.0	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	0	4	0	0	1	1	1
North Hempstead	8,000	6	9.00	2	33.3	0	0	0	0	0	1	0	0	0	2	0	500.00	0	1	0	0	1	0	0	1	0	0	0
Jamaica	10,089	9	10.80	2	22.2	0	0	0	0	0	0	0	0	0	1	0	111.11	0	1	0	1	0	1	1	1	2	1	0
Babylon	4,739	7	17.70	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	3	1	3	0	0	0	0
Southold	7,267	3	5.00	0	......	0	0	0	1	0	0	0	0	0	0	0	333.33	0	0	0	0	0	0	1	0	1	0	0
Southampton	6,352	10	18.89	4	40.0	0	0	0	0	0	0	0	0	1	0	0	100.00	1	4	0	1	0	0	1	0	0	0	2
Edgewater	*10,000	15	18.00	4	26.7	0	0	0	0	0	1	0	0	0	1	1	200.00	1	4	0	1	1	0	2	0	2	1	0
Northfield	7,014	5	8.59	1	20.0	0	0	0	0	0	0	0	0	1	0	0	200.00	2	0	0	0	1	0	1	0	0	0	0
Westfield	5,289	10	22.61	4	40.0	0	0	0	0	0	0	0	1	0	0	1	200.00	1	3	0	0	0	2	0	0	2	0	0
YONKERS	*22,000	41	22.37	14	34.1	0	0	1	1	0	0	0	0	1	3	4	243.90	6	6	1	2	1	3	4	0	2	3	3
Westchester	*6,900	7	12.17	2	28.6	0	0	0	0	0	0	0	0	0	1	0	....	2	2	0	0	0	0	0	0	0	1	1
Mount Vernon	*5,000	5	12.00	3	60.0	1	0	0	0	0	0	0	0	0	1	0	400.00	1	0	0	0	0	0	0	0	0	1	1
Rye	3,500	6	20.56	2	33.3	0	0	0	1	0	0	0	0	1	1	0	500 00	0	0	0	1	0	1	1	0	0	0	0
Sing Sing	*6,500	11	20.31	4	36.4	0	0	0	0	0	0	0	0	0	3	0	272.72	1	0	1	0	0	0	2	0	2	2	0
New Rochelle	5,276	9	20.47	2	22.2	0	0	0	0	0	0	0	0	0	1	0	111.11	1	2	0	1	0	0	2	0	1	0	1
Rest of district	....	74	....	18	24.3	0	0	0	0	0	3	0	1	1	4	4	175.67	3	17	0	3	3	6	4	3	10	3	9
HUDSON VALLEY DIST.:																												
Totals	....	613	......	192	......	7	..	25	10	1	3	3	...	2	87	23	....	49	81	9	41	37	55	57	16	29	36	69
ALBANY	96,000	170	21.25	69	40.6	3	0	0	0	1	0	0	0	1	37	7	305.88	7	21	1	14	9	15	11	2	4	3	31
West Troy	13,000	19	17.54	4	21.0	0	0	0	0	0	0	0	0	0	1	0	52.60	10	1	0	1	1	0	3	0	1	0	1
Hoosac Falls	*4,000	9	27.00	2	22.2	1	0	0	1	0	0	0	0	0	0	0	222.22	0	3	0	0	0	0	2	0	0	2	0
TROY	*60,000	97	19.40	30	31.0	3	0	4	1	0	0	0	0	1	6	6	216.50	9	17	5	6	7	7	10	2	4	7	2

Lansingburgh	8,500	12	16.95	1	8.33	0	0	2	0	0	1	0	0	0	0	0	250.00	3	2	0	0	0	3	0	0	1	0	0
Green Island	*5,000	5	12.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	1	3
Greenbush	7,200	8	13.33	3	37.5	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	1	0	2	1	1	0	0	1
Coxsackie	4,000	5	15.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	0	2	0	0	1	0
Catskill	*4,500	8	21.33	3	37.5	0	0	1	0	0	0	0	0	0	2	2	625.00	0	0	0	0	1	0	1	0	0	0	1
HUDSON	*10,000	23	27.60	10	43.5	0	0	0	0	0	0	1	0	0	8	0	391.30	1	1	0	1	3	5	1	1	0	1	0
KINGSTON	21,100	33	17.82	10	33.3	0	0	1	2	0	0	0	0	0	9	0	363.63	3	2	0	6	2	2	0	1	4	1	0
Wawarsing	8,547	5	8.02	0	......	0	0	0	1	0	0	0	0	0	0	0	200.00	0	1	0	0	1	0	0	1	0	1	0
Rosendale	5,000	6	14.40	2	33.3	0	0	0	0	0	0	0	0	0	1	0	166.67	1	0	0	0	0	0	1	1	0	0	2
Marbletown	4,000	1	3.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	0	0
Esopus	4,736	4	10.14	2	50.0	0	0	1	0	0	0	0	0	0	2	0	750.00	0	0	0	0	0	1	0	0	0	0	0
Saugerties	4,000	4	12.00	2	50.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	1	0	0	0	2
POUGHKEEPSIE	20,200	33	19.60	5	15.2	0	0	2	2	0	0	0	0	0	0	1	151.18	1	8	1	1	0	3	5	1	2	1	5
Fishkill	10,732	20	22.36	6	30.0	0	0	0	0	0	1	0	0	0	7	0	400.00	2	1	0	2	0	1	0	1	1	0	4
Wappinger's Falls	5,000	6	14.40	2	33.3	0	0	0	0	0	1	0	0	0	1	0	333.33	1	1	0	0	1	0	1	0	0	0	0
NEWBURGH	20,000	0	....	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	0	0
Port Jervis	9,000	9	12.00	4	44.4	0	0	1	0	0	0	0	0	0	0	0	111.11	1	0	0	0	0	0	2	0	2	0	3
Middletown	10,000	9	10.80	2	22.2	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	1	0	1	0	0	1	2	1
Goshen	4,387	5	13.68	1	20.0	0	0	0	0	0	0	0	0	0	0	1	200.00	0	0	0	0	2	0	1	0	0	0	1
Haverstraw	7,000	7	12.00	2	28.6	0	0	0	0	0	0	0	0	0	1	0	142.85	0	3	0	1	0	0	0	1	1	0	0
Clarkstown	4,378	4	11.00	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	1	0	0	0	1	0
Ramapo	5,000	1	2.40	1	100.0	0	0	0	0	0	0	0	0	0	1	0	1000.00	0	0	0	0	0	0	0	0	0	0	0
Rest of district	....	140	....	28	20.0	0	0	10	3	0	0	2	0	0	11	6	228.50	6	17	2	6	10	14	14	4	8	15	12
ADIRONDACK & NORTHERN DIST.: Totals	....	190	....	54	.....	..	...	3	...	1	...	...	2	1	12	13	....	8	31	5	18	7	15	23	2	7	15	27
Argyle	3,700	3	10.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	1	0	1	0	0	0
Greenwich	3,861	2	7.00	0	......	0	0	0	0	0	0	0	0	0	0	1	500.00	0	1	0	0	0	0	0	0	0	0	0
Fort Ann	4,267	2	5.62	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	0	0	0	0	0	0
Fort Edward	4,880	8	20.00	1	12.5	0	0	0	0	0	0	0	0	0	0	0	....	0	5	0	1	0	1	0	0	1	0	0
Queensbury	10,000	13	15.60	6	46.2	0	0	0	0	0	0	0	0	0	0	0	....	1	2	3	2	2	1	1	0	1	0	0
Ticonderoga	3,304	3	10.90	0	100.0	0	0	0	0	0	0	0	0	0	3	0	1000.00	0	0	0	0	0	0	0	0	0	0	0
Crown Point	4,287	1	2.80	1	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	0	0
Port Henry	2,525	1	4.70	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	0	0
Malone	7,908	7	10.63	3	42.9	0	0	0	0	0	0	0	0	0	2	1	428.57	0	0	0	0	0	0	0	0	0	1	3
OGDENSBURGH	11,000	19	20.73	9	47.3	0	0	0	0	0	0	0	0	1	1	2	210 52	1	3	1	0	0	3	1	0	1	1	4
Gouverneur	5,000	5	12.00	1	20.0	0	0	0	0	0	0	0	0	0	2	0	400.00	0	1	0	1	0	0	0	1	0	0	0
Ellisburgh	4,812	4	10.00	1	25.0	0	0	0	0	0	0	0	0	0	0	1	250.00	0	0	0	1	0	0	0	0	0	1	1
WATERTOWN	*12,269	10	9.80	2	20.0	0	0	0	0	0	0	0	0	0	0	1	100.00	0	3	0	1	0	0	4	0	0	0	1
Cape Vincent	3,143	2	7.64	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	0	0	0	0	0
Rest of district	....	110	....	30	27.3	0	0	3	0	1	0	0	2	0	4	7	154.55	6	13	1	10	4	8	17	0	4	12	18
MOHAWK VALLEY DIST: Totals	....	233	....	48	......	1	...	10	7	...	...	...	1	2	14	10	....	23	34	1	12	8	27	34	6	9	17	18
SCHENECTADY	15,000	17	13 60	6	35.3	1	0	1	0	0	0	0	0	0	1	1	233.00	1	3	0	0	1	4	3	0	1	0	0
Schoharie	3,350	2	7.16	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	1	0	0
Middleburgh	3,376	1	3.55	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	0	0
AMSTERDAM	13,000	12	11.08	4	33.3	0	0	0	0	0	0	0	0	0	1	0	81.33	3	2	0	0	0	3	2	0	0	0	1
Johnstown	*6,000	1	2.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	0	0
Gloversville	*8,000	6	9.00	1	16.7	0	0	1	0	0	0	0	0	0	0	1	333.33	0	0	0	0	0	3	1	0	0	0	0
Little Falls	7,300	8	13.15	2	25.0	0	0	0	1	0	0	0	0	0	3	0	500.00	1	0	0	1	1	0	0	0	1	0	0
Ilion	4,200	4	11.43	1	25.0	0	0	0	0	0	0	0	0	0	0	1	250.00	1	1	1	0	0	0	0	0	0	0	0
Herkimer	3,000	9	36.00	4	44.4	0	0	0	0	0	0	0	0	1	0	0	111.11	1	0	0	0	2	0	1	0	1	2	1
UTICA	*39,000	55	16.92	11	20.0	0	0	0	2	0	0	0	0	0	6	2	181.82	6	11	0	6	1	4	6	3	1	2	5
ROME	12,045	18	18.00	3	16.6	0	0	0	0	0	0	0	1	0	0	4	277 78	0	1	0	1	0	0	7	0	0	3	1
Boonville	4,000	4	12.00	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	1	0	0	0	1	1

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of—	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassifie
MOHAWK VALLEY DIST.:																												
Camden	3,400	8	28.23	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	1	1	0	4	0	0	0	0
Waterford	4,326	8	22.20	1	12.5	0	0	2	0	0	0	0	0	0	0	0	250.00	1	1	0	1	0	2	1	0	0	0	0
Ballston Spa	3,300	6	21.82	1	16.7	0	0	2	0	0	0	0	0	1	0	0	500 00	1	0	0	0	0	0	0	1	0	1	0
Saratoga Springs	10,000	14	16.80	3	21 4	0	0	1	3	0	0	0	0	0	0	1	385.71	0	0	0	0	0	3	1	0	1	3	1
Rest of district	....	60	....	10	16.6	0	0	3	1	0	0	0	0	0	3	0	116.67	4	12	0	2	2	7	8	2	3	5	8
SOUTHERN TIER DIST.:																												
Totals	....	114	....	27	.....	1	...	7	3	..	2	..	1	1	5	4	....	7	16	...	11	4	5	18	5	2	10	12
BINGHAMTON	*20,000	24	11.40	5	20.8	0	0	2	2	0	0	0	0	0	0	0	166.67	1	2	0	4	2	0	1	1	1	2	3
Owego	*6,000	5	10.00	1	20.0	0	0	0	1	0	0	0	0	0	0	0	200.00	0	1	0	0	0	0	1	0	1	1	0
Candor	1,323	3	8.33	0	. . .	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	2	0	0	0	0
ELMIRA	25,000	21	10.08	6	28.6	0	0	0	0	0	0	0	0	0	2	1	142.86	3	7	0	0	0	1	4	0	0	0	3
Bath	7,400	9	14.60	1	11.1	0	0	0	0	0	0	0	0	0	0	1	111.11	0	3	0	0	2	0	0	0	0	2	1
Olean	8,000	7	10.50	3	42.9	0	0	0	0	0	0	0	0	1	2	0	528.57	0	0	0	1	0	1	0	0	0	4	1
Jamestown	*12,000	13	13.00	4	30.7	1	0	1	0	0	2	0	1	0	0	0	381.62	1	0	1	3	0	1	2	1	0	0	0
Westfield	*3,000	4	12.67	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	1	1	0	0	0
Fredonia	2,800	2	8.57	1	50.0	0	0	0	0	0	0	0	0	0	0	1	500.00	0	0	0	0	0	0	0	0	0	1	0
Rest of district	....	26	....	5	19.2	0	0	4	0	0	0	0	0	0	1	1	230.77	1	2	0	3	0	1	4	2	0	3	4
EAST CENTRAL DIST.:																												
Totals	....	200	....	33	.....	...	..	11	2	...	..	...	1	1	5	11	....	7	41	...	13	6	14	29	10	7	17	22
Walton	3,541	7	23.66	2	28.5	0	0	1	0	0	0	0	0	0	0	1	285.71	0	1	0	0	0	0	0	1	0	1	2
Franklin	3,000	3	12.00	1	33.3	0	0	0	0	0	0	0	0	0	0	1	333.33	0	0	0	0	0	1	0	0	0	1	0
Delhi	3,000	4	16.00	0	......	0	0	0	0	0	0	0	0	0	1	0	250.00	0	0	0	0	1	1	0	1	0	0	0
Liberty	3,209	8	30.00	1	12.5	0	0	0	0	0	0	0	0	0	2	0	250.00	1	1	0	1	0	1	1	0	0	1	0
Cooperstown	*3,000	3	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	0	0	0	0	1	0
Otsego	4,700	3	7.66	6	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	0	0	0	1	0
Oneonta	*5,000	6	14.40	2	22.2	0	0	0	0	0	0	0	0	0	0	1	166.67	0	0	0	1	0	0	1	1	0	0	2
Worcester	*2,030	2	8.00	0	... .	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	1	0	0	0	0	0	0
Oneida	5,000	6	14.40	0	.....	0	0	2	0	0	0	0	0	1	0	0	500.00	0	1	0	0	0	0	2	0	0	0	0
Brookfield	3,685	1	3.26	0	.....	0	0	0	0	0	0	0	0	0	0	0	. ...	0	0	0	0	0	0	0	1	0	0	0
SYRACUSE	*65,000	81	14.95	16	19.8	0	0	5	2	0	0	0	0	0	2	4	160.25	4	18	0	3	2	7	14	2	7	1	10
Geddes	7,000	7	12.00	2	28.6	0	0	1	0	0	0	0	0	0	0	0	142.85	0	2	0	2	0	0	1	0	0	0	1
Cortland	7,361	5	8.15	2	40.0	0	0	0	0	0	0	0	0	0	0	1	200.00	0	0	0	1	0	0	1	0	0	0	2

Homer	3,000	4	16.00	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	1	1	1	0	0	0
Rest of district	....	60	....	7	11.7	0	0	2	0	0	0	0	1	0	0	3	100.00	2	17	0	4	1	3	8	3	0	11	5
WEST CENTRAL DIST.:																												
Totals	....	160	.. ..	28	......	3	...	7	3	...	...	...	...	1	4	12	....	9	15	1	13	7	8	23	7	7	22	18
AUBURN	*26,000	24	11.08	6	25.0	3	0	1	1	0	0	0	0	0	1	1	291.67	4	4	0	1	1	0	2	0	0	2	3
Ithaca	†10,000	10	12.00	2	20.0	0	0	2	0	0	0	0	0	0	1	0	300.00	0	0	0	1	1	0	2	0	0	2	1
Waterloo	*4,500	2	5.34	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	0	0	0
Hector	5,000	4	9.60	0	......	0	0	0	0	0	0	0	0	0	0	1	250.00	0	0	0	0	0	0	0	0	0	2	1
Seneca Falls	6,853	4	7.00	1	25.0	0	0	0	0	0	0	0	0	0	0	1	250.00	1	0	0	0	0	1	0	1	0	0	0
Manchester	*4,000	3	9.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	0	0	0	1	0
Phelps	*7,000	5	8.59	1	20.0	0	0	0	0	0	0	0	0	0	0	1	200.00	0	0	0	1	0	1	0	1	0	0	1
Canandaigua	6,300	12	22.89	5	41.7	0	0	1	0	0	0	0	0	0	0	2	250.00	1	1	1	1	0	1	0	0	1	1	2
Geneva	*6,000	7	14.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	1	0	2	0	2	0
Penn Yan	4,500	4	10.67	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	1	0	0	2	0
Lima	*2,800	2	8.47	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	1	0	1	0
Le Roy	3,000	3	12.00	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	1	0	2	0
Rest of district	....	80	....	11	13.7	0	0	3	2	0	0	0	0	1	2	6	175.00	2	6	0	8	5	4	17	1	6	7	10
LAKE ONTARIO & WESTERN DIST.: Totals	....	334	....	83	.. ...	1	...	13	1	...	3	...	...	1	26	14	....	27	52	2	20	14	25	47	14	16	26	32
OSWEGO	*21,000	20	10.00	5	25.0	0	0	0	0	0	0	0	0	0	0	2	....	1	6	0	2	1	0	1	2	2	2	1
Richland	4,000	6	18.00	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	2	0	1	1	1
Fulton	*4,000	4	12.00	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	2	0	1
Lyons	6,000	13	26.00	4	30.8	0	0	0	1	0	0	0	0	0	0	0	76.92	3	2	0	1	0	1	0	0	1	1	3
Newark	3,500	2	7.00	1	50.0	0	0	0	0	0	0	0	0	0	0	1	....	0	0	0	0	0	0	0	1	0	0	0
Palmyra	4,800	6	15.00	2	33.3	0	0	1	0	0	0	0	0	0	0	0	166.67	1	1	0	0	0	1	1	0	0	1	0
Wolcott	3,753	2	6.40	1	50 0	1	0	0	0	0	0	0	0	0	0	0	500.00	0	0	0	1	0	0	0	0	0	0	0
Clyde	*3,000	6	24.00	2	33.3	0	0	0	0	0	0	0	0	0	0	1	166.67	1	0	0	0	0	2	1	0	0	0	1
ROCHESTER	*101,000	142	13.83	53	37.3	0	0	9	0	0	2	0	0	0	22	9	295.77	9	22	1	6	7	6	22	2	5	9	11
Brockport	4,500	5	13.33	2	40.0	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	0	0	1	0	0	0	1
Greece	*5,000	4	9.60	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	1	0	0	0	0	1	0	0
Mendon	3,200	2	7.50	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	1	0	0
Brighton	3,736	*a*3	9.72	1	33.3	0	0	1	0	0	0	0	0	0	0	0	333.33	0	1	0	0	0	0	1	0	0	0	0
Albion	5,147	*b*12	28.05	2	16.7	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	3	1	3	1	1	0	1	2
LOCKPORT	16,000	16	12.00	0	......	0	0	1	0	0	0	0	0	0	0	0	62.50	3	3	0	0	2	1	2	2	0	2	0
Tonawanda	4,900	7	17.14	1	14 3	0	0	0	0	0	0	0	0	0	1	0	142.85	0	0	0	0	0	0	1	0	0	3	2
Aurora	3,000	4	12.67	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	2	0	0	0	0	1
Rest of district	....	80	....	7	8.8	0	0	1	0	0	1	0	0	1	3	1	87.77	7	10	1	6	3	9	14	6	3	6	8
Totals for the State	....	5,680	....	1,853	32.6	27	4	151	85	5	53	6	15	61	429	324	204.22	525	927	58	342	313	362	603	160	238	341	651

REMARKS.—The total reported mortality for the month is 5,680; the percentage of infant mortality being 32.6. The ratio per 1,000 from all zymotic diseases to the total mortality is 201.22; from typhoid fever, 26.59; from diarrhœal diseases, 57.04, and from croup and diphtheria, 75.53. From consumption the ratio per 1,000 is 163.20, and from acute respiratory diseases, 92.43. There were five deaths from small-pox during the month, three of which occurred in New York, one in Albany and one in Essex county. For the month of September 400 delayed returns have been received, of which 110 were under five years of age.

a Also ten deaths in Monroe county hospital. *b* Also two deaths in Orleans county hospital.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during November, 1885.

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DIST.: Totals	....	3,727	....	1,260	......	14	2	74	54	8	65	13	9	47	348	80	....	529	589	41	198	241	225	400	93	163	225	306
NEW YORK CITY	*1,397,395	2,364	20.31	822	31.5	14	2	34	24	8	24	11	7	36	213	50	139.17	341	380	25	116	169	145	242	69	119	180	155
BROOKLYN	*665,600	1,058	19.07	351	33.1	0	0	37	26	0	35	2	1	11	110	20	238.73	156	169	16	51	60	51	119	19	25	31	119
Gravesend	5.000	8	19.20	1	12.5	0	0	0	1	0	0	0	0	0	1	1	375.00	0	0	0	1	0	0	2	0	2	0	0
New Lots	19,000	29	18.31	11	37.9	0	0	0	1	0	0	0	0	0	5	3	310.37	1	1	1	4	1	2	6	1	0	0	3
New Utrecht	4,742	9	22.77	2	22.2	0	0	0	1	0	0	0	0	0	0	0	111.11	2	2	0	1	0	0	2	0	0	0	1
Flatlands	3,127	3	11.50	2	66.6	0	0	0	0	0	0	0	0	0	0	1	333.33	1	0	0	1	0	0	0	0	0	0	0
LONG ISLAND CITY	*21,000	32	18.29	12	37.5	0	0	1	0	0	1	0	0	0	3	0	156.25	1	10	0	3	4	1	0	0	2	0	6
Newtown	*10,000	16	19.20	8	50.0	0	0	0	0	0	2	0	0	0	6	0	500.00	1	1	0	2	0	1	0	0	0	0	3
Oyster Bay	*12,000	11	11.00	2	18.2	0	0	0	0	0	0	0	0	0	1	0	90.90	3	0	0	1	0	3	0	0	1	1	1
North Hempstead	*7,000	7	12.00	3	42.9	0	0	0	0	0	1	0	0	0	0	1	285.71	0	1	0	0	1	2	0	0	1	0	0
Jamaica	10,089	4	....	1	25.0	0	0	0	0	0	0	0	0	0	0	1	500.00	0	0	0	0	0	1	1	0	0	1	0
Babylon	4,739	7	17.72	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	0	1	1	1	0	1	2	0	1	0	0
Southold	7,267	5	12.65	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	2	0	0	0	0	1
Southampton	6,352	9	17.00	1	11.1	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	1	1	2	0	0	0	2	1
Edgewater	10,000	12	....	6	50.0	0	0	0	0	0	1	0	0	0	0	0	83.33	4	1	0	2	1	1	2	0	0	0	0
Northfield	7,014	6	10.29	2	33.3	0	0	1	0	0	0	0	0	0	0	0	166.67	0	1	0	2	0	0	1	0	0	0	1
Westfield	5,289	9	20.41	3	33.3	0	0	0	0	0	0	0	0	0	1	0	111.11	0	3	0	0	1	1	1	0	0	1	1
YONKERS	*22,000	31	17.00	9	29.0	0	0	0	0	0	0	0	1	0	3	0	129.32	4	7	1	2	1	4	4	1	2	1	0
Westchester	*6,900	14	21.45	5	35.7	0	0	0	0	0	1	0	0	0	2	0	211.29	2	2	0	3	0	0	1	1	0	1	1
Mount Vernon	*5,000	15	36.00	4	26.7	0	0	0	0	0	0	0	0	0	0	1	66.67	3	0	0	3	0	1	3	0	1	0	3
Sing Sing	*6,500	12	22.15	4	25.0	0	0	0	0	0	0	0	0	0	2	0	166.67	0	0	0	0	0	1	0	0	1	3	5
New Rochelle	5,276	2	4.55	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	1	0	0	0	0
Rest of district	....	64	....	9	......	0	0	0	2	0	0	0	0	0	1	2	....	9	8	0	2	2	6	13	2	8	4	5
HUDSON VALLEY DIST.: Totals	....	649	....	164	......	6	...	18	5	...	2	3	1	2	67	20	....	74	85	5	33	33	57	88	21	30	38	61
ALBANY	96,000	171	21.35	50	29.2	0	0	6	0	0	0	0	0	0	32	9	380.70	15	17	2	3	10	17	18	3	4	9	26
COHOES	*20,000	*a*34	20.40	13	37.6	0	0	0	1	0	1	3	0	0	5	1	323.53	6	1	0	2	1	1	3	2	1	4	2
West Troy	13,000	20	18.46	7	35.0	0	0	0	0	0	0	0	0	0	0	0	....	7	1	0	5	1	0	4	0	2	0	0
Hoosick Falls	*4,000	5	15.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	0	1	1	0	1
TROY	*60,000	89	17.80	24	27.0	4	0	3	0	0	0	0	0	0	3	2	134.83	12	18	0	6	5	10	11	4	2	3	6

Lansingburgh	*9,700	17	21.03	2	11.8	0	0	0	0	0	1	0	0	0	1	0	117.65	1	5	0	0	4	1	3	0	1	0	0
Green Island	*5,000	4	9.60	3	75.0	1	0	0	0	0	0	0	0	0	0	1	250.00	2	0	0	0	0	0	0	0	0	0	0
Greenbush	7,200	10	16.67	3	30.0	0	0	1	0	0	0	0	0	0	1	0	200.00	3	1	0	0	1	0	1	0	0	0	2
Coxsackie	4,000	4	12.00	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	1	0	0	1	0	0	0	1
Catskill	*4,500	3	8.00	1	33.3	0	0	0	0	0	0	0	0	0	0	1	333.33	0	1	0	0	0	0	0	1	0	0	0
HUDSON	*10,000	12	14.40	3	25.0	0	0	0	0	0	0	0	0	0	3	2	416.67	0	2	0	0	0	2	3	0	0	0	0
KINGSTON	21,100	23	13.08	9	39.1	1	0	0	2	0	0	0	0	1	2	2	347.83	3	1	1	3	2	4	1	0	0	0	0
Wawarsing	8,547	8	11.23	1	12.5	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	0	0	2	0	2	0	0	0
Rosendale	5,000	3	7.20	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	1	1	0
Marbletown	4,000	4	12.00	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	2	0	1	0	1
Esopus	4,736	3	7.60	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	1	1	0
Saugerties	*4,000	2	6.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	0	0	0
POUGHKEEPSIE	20,200	32	19.01	2	6.2	0	0	1	0	0	0	0	1	0	0	0	58.83	2	8	0	2	0	2	9	0	3	4	0
Fishkill	10,732	11	15.65	4	28.5	0	0	3	0	0	0	0	0	1	4	0	571.42	1	1	0	1	0	1	0	0	2	0	0
Wappinger's Falls	5,000	5	12.00	2	40.0	0	0	0	1	0	0	0	0	1	0	0	400.00	2	0	0	0	1	0	0	0	0	0	0
NEWBURGH	20,000	25	15.00	6	21.0	0	0	0	0	0	0	0	0	0	4	0	160.00	3	5	0	3	3	1	3	0	0	2	1
Port Jervis	9,000	6	8.00	2	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	2	0	1	1	0	1
Middletown	10,000	8	9.60	2	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	1	1	1	1	1	0	2
Haverstraw	7,000	9	15.43	2	22.2	0	0	0	0	0	0	0	0	0	0	0	....	0	1	1	1	0	0	1	0	2	0	3
Ramapo	5,000	2	4.80	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	1	0	0	0	0
Rest of district	... ...	137	....	23	......	0	0	4	1	0	0	0	0	0	12	2	....	11	11	1	5	4	13	25	6	7	14	15
ADIRONDACK & NORTHERN DISTRICT: Totals	....	168	....	28	......	...	...	5	2	...	...	...	2	...	12	1	....	13	27	5	14	3	20	15	7	8	18	16
Argyle	3,700	2	6.50	2	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	1	0	0	0	0
Greenwich	3,861	2	6.20	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	0	2
Fort Edward	4,880	6	14.76	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	1	0	0	1	0	1	1	0
Queensbury	10,000	11	13.20	0	......	0	0	0	0	0	0	0	0	0	0	0	. ...	0	4	3	0	0	1	1	0	0	0	2
Ticonderoga	3,304	6	21.82	2	33.3	0	0	0	0	0	0	0	0	0	2	0	333 33	0	2	0	0	0	0	1	0	0	1	0
Crown Point	4,287	4	11.20	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	1	0	0	0	0	0	1	0
Port Henry	2,525	1	4.70	0	.... .	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	1	0	0
Malone	7,908	5	7.46	0	......	0	0	1	0	0	0	0	0	0	0	0	200.00	0	1	0	1	0	1	0	0	0	1	0
OGDENSBURG	11,000	11	12.00	3	27.3	0	0	0	0	0	0	0	0	0	2	0	181.81	1	4	0	0	0	1	1	0	1	0	1
Gouverneur	*5,500	11	24.00	3	27.3	0	0	1	0	0	0	0	0	0	4	0	454.54	1	2	0	2	0	1	0	0	0	0	0
Ellisburgh	4,812	3	7.50	0	......	0	0	0	0	0	0	0	0	0	0	0	... .	0	0	0	1	0	1	0	0	0	1	0
WATERTOWN	*12,269	16	15.71	4	25.0	0	0	1	1	0	0	0	0	0	0	1	187.50	1	4	0	1	1	1	2	0	0	2	1
Cape Vincent	3,143	1	3.83	1	10.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	0	0
Rest of district	....	90	....	11	......	0	0	2	1	0	0	0	2	0	4	0	....	8	7	2	6	2	14	8	7	5	11	11
MOHAWK VALLEY DIST.: Totals	....	230	....	43	......	2	...	5	2	...	2	1	2	1	11	1	....	32	35	3	15	11	24	20	6	9	33	22
SCHENECTADY	15,000	18	14.40	2	11.1	0	0	1	1	0	0	0	0	0	1	1	166.67	3	4	0	1	1	3	1	0	0	1	1
Schoharie	3,350	9	32.38	0	......	0	0	0	0	0	2	0	0	0	0	0	222.22	1	0	0	1	0	2	0	0	0	2	1
Cobleskill	3,371	2	7.12	0	....	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	1	0	0	0	0	0
Middleburgh	3,376	2	7.12	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	1	0
AMSTERDAM	13,000	16	14.77	5	31.2	1	0	0	0	0	0	0	0	0	1	0	125.00	1	5	0	0	1	0	5	0	0	1	1
Johnstown	*6,000	6	12.00	2	16.7	0	0	0	0	0	0	0	0	0	0	0	....	0	3	0	0	1	0	2	0	0	0	0
Gloversville	*8,000	6	9.00	3	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	2	0	0	0	0	0
Little Falls	7,300	5	8.22	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	2	0	0	1	1
Ilion'	4,200	5	14.29	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	1	0	1	1	0	0	0	0	0
Herkimer	3,000	5	20.00	1	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	2	1	0	1	0	0	0	0
UTICA	*39,000	60	18.46	18	30.0	0	0	0	0	0	0	0	1	0	7	0	133.33	14	6	2	5	1	6	5	0	3	4	6
ROME	12,045	17	17.00	1	5.8	0	0	0	0	0	0	0	0	0	0	1	58.82	0	3	0	0	1	3	1	1	3	2	2
Boonville	4,000	3	9.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	1	0	0	0	0	0	1

[a] Fifty deaths in Cohoes in October: 17 under five years, 13 zymotic and 8 from consumption.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of—	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MOHAWK VALLEY DIST.:																												
Camden	3,400	2	7.06	0	......	0	0	1	0	0	0	0	0	0	0	0	500.00	0	0	0	0	0	1	0	0	0	0	0
Waterford	4,326	4	11.11	1	25.0	0	0	0	0	0	0	1	0	0	0	0	250.00	2	0	0	0	0	0	0	0	1	0	0
Ballston Spa	3,300	6	21.82	1	16.7	1	0	1	0	0	0	0	1	0	0	0	500.00	0	2	0	0	0	0	0	0	0	1	0
Saratoga Springs	10,000	21	25.20	1	4.8	0	0	2	1	0	0	0	0	0	0	0	142.86	0	3	0	1	1	0	1	3	0	5	4
Rest of district	....	43	......	7	......	0	0	0	0	0	0	0	0	1	5	0	....	4	7	0	3	2	5	2	2	2	5	5
SOUTHERN TIER DIST.:																												
Totals	....	83	....	20	......	...	...	4	...	...	2	...	...	1	2	2	....	5	8	1	8	5	10	11	4	4	6	10
BINGHAMTON	*20,000	16	9.60	4	25.0	0	0	0	0	0	2	0	0	0	0	0	125.00	1	2	0	2	0	2	4	1	0	1	1
Candor	4,323	3	8.33	1	33.3	0	0	0	0	0	0	0	0	0	0	1	333.33	0	0	0	0	0	0	0	1	0	1	0
ELMIRA	25,000	18	8.64	3	16.6	0	0	1	0	0	0	0	0	0	0	0	55.55	2	2	0	1	1	1	2	2	3	1	2
Hornellsville	10,000	8	9.60	3	37.5	0	0	1	0	0	0	0	0	0	0	0	125.00	1	0	0	1	1	2	0	0	0	0	2
Bath	7,400	*a*5	8.11	1	20.0	0	0	1	0	0	0	0	0	1	0	0	*a*400.00	0	0	0	1	1	0	0	0	0	1	0
Olean	8,000	3	4.50	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	1	0	0	0	0	0	0
Jamestown	*12,000	12	12.00	5	41.7	0	0	1	0	0	0	0	0	0	0	0	83.33	0	1	1	1	0	2	2	0	0	0	4
Westfield	3,000	2	8.00	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	1	0	0
Rest of district	....	16	....	2	......	0	0	0	0	0	0	0	0	0	2	1	....	0	2	0	2	1	3	2	0	0	2	1
EAST CENT. DIST: Totals	....	177	....	30	......	3	...	7	4	...	...	...	1	1	5	4	....	16	25	...	7	5	17	21	11	17	12	21
Walton	3,541	2	6.78	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	0	0	0	0	1	0
Delhi	3,000	5	30.00	1	20.0	1	0	0	0	0	0	0	0	0	0	2	800.00	0	0	0	0	0	0	0	2	0	0	0
Cooperstown	*3,000	4	16.00	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	1	0	1
Oneonta	*5,000	6	14.40	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	0	0	0	1	1	0	2
Oneida	5,000	7	16.80	1	14.3	0	0	0	0	0	0	0	0	1	1	0	285.71	1	1	0	0	0	1	1	0	1	0	0
Brookfield	3,685	2	6.51	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	1	0	0	0	1	0
Canastota	2,500	4	19.20	5	......	0	0	1	0	0	0	0	0	0	0	0	250.00	0	0	0	0	0	0	0	0	1	2	0
Baldwinsville	3,000	6	24.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	1	0	1	1	0	1
SYRACUSE	*65,000	65	12.00	16	24.6	0	0	0	4	0	0	0	1	0	2	1	138.46	6	9	0	3	1	4	13	1	7	0	12
Geddes	7,000	4	6.86	0	......	0	0	2	0	0	0	0	0	0	1	0	750.00	0	0	0	0	0	0	0	0	0	0	1
Cortland	7,361	10	16.30	3	30.0	0	0	0	0	0	0	0	0	0	0	1	100.00	2	2	0	0	0	1	1	1	1	1	0
Rest of district	....	62	....	7	......	1	0	4	0	0	0	0	0	0	1	0	....	4	11	0	4	3	9	5	5	4	7	3
WEST CENTRAL DIST.:																												
Totals	....	119	....	19	......	..	...	7	1	...	...	...	1	...	4	3	......	16	17	1	10	3	12	19	5	3	10	7
AUBURN	*26,000	35	16.15	6	17.2	0	0	1	0	0	0	0	0	0	1	1	83.33	8	8	0	3	1	1	3	2	1	3	2

Hector	5,000	3	7.20	0	......	0	0	1	0	0	0	0	0	0	0	1	666.66	1	0	0	0	0	0	0	0	0	0	0
Seneca Falls	6,853	3	5.25	1	33.3	0	0	0	0	0	0	0	0	0	1	0	333.33	2	0	0	0	0	0	0	0	0	0	0
Manchester	*4,000	4	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	2	0	1	0	0	0
Phelps	*7,000	10	17.14	1	10.0	0	0	0	0	0	0	0	0	0	0	1	100.00	0	2	0	0	0	2	4	0	1	0	0
Canandaigua	6,300	4	7.62	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	1	0	0	0	0	0	0	1
Geneva	*6,000	7	14.00	2	28.6	0	0	1	0	0	0	0	0	0	0	0	142.87	0	1	1	1	1	1	0	0	0	0	1
Penn Yan	4,500	2	5.33	0	......	0	0	1	0	0	0	0	0	0	0	0	500.60	0	0	0	0	0	0	1	0	0	0	0
Lima	*2,800	2	8.57	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	1	0	0	0	0	0
Rest of district	....	49	....	8	......	0	0	3	1	0	0	0	1	0	2	0	....	3	4	0	5	1	5	11	2	1	7	3
LAKE ONTARIO & WESTERN DIST.: Totals	....	294	....	56	......	...	...	6	1	...	6	...	3	...	26	4	....	31	45	4	17	9	23	45	11	15	21	27
OSWEGO	*21,000	25	12.50	1	4.00	0	0	2	0	0	0	0	0	0	1	0	150.00	2	6	0	5	0	2	1	1	1	1	3
Richland	4,000	2	6.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	1	0	0
Fulton	*4,000	3	9.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	1	1	0	0
Lyons	*6,000	6	12.00	2	33.3	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	1	0	1	1	1
Newark	3,500	1	3.43	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	1	0	0
Palmyra	*4,800	3	7.50	2	66.0	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	2	0	0	0	0	0	0	0
Wolcott	3,753	3	9.61	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	1	0	0	0	0	0	0	0
Clyde	*3,000	3	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	1	0	0	1	0
ROCHESTER	*101,000	150	17.82	39	26.0	0	0	2	0	0	2	0	2	0	19	4	193.34	14	25	2	2	7	9	32	5	5	6	14
Brockport	4,500	5	13.33	1	20.0	0	0	0	0	0	1	0	0	0	0	0	200.00	0	0	0	0	1	0	1	1	0	1	0
Mendon	3,200	3	10.94	0	......	0	0	0	0	0	0	0	0	0	1	0	333.33	0	1	0	0	0	1	0	0	0	0	0
Brighton	3,736	[b]5	16.06	0	......	0	0	1	0	0	0	0	0	0	0	0	[b]200.00	0	0	0	0	0	1	1	1	0	1	0
Albion	5,147	6	14.00	2	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	2	1	0	0	0	2
LOCKPORT	16,000	10	7.50	0	......	0	0	0	0	0	0	0	0	0	1	0	100.00	0	1	0	1	0	3	1	0	0	1	2
Tonawanda	4,900[a]	3	7.55	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	0	0	1	0	0
Amherst	4,518	3	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	1	0	1	0
Hamburg	3,235	3	11.12	1	33.3	0	0	0	0	0	2	0	0	0	1	0	100.00	0	0	0	0	0	0	0	0	0	0	0
Aurora	3,000	1	4.00	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	0	0	0	0	0
Rest of district	....	59	....	7	......	0	0	1	1	0	1	0	1	0	3	0	....	10	5	2	4	1	5	6	1	4	8	5
Totals for the State.	....	5,448	....	1,620	29.7	25	2	126	69	8	77	17	19	53	478	115	181.35	716	831	63	302	310	388	619	158	249	359	470

REMARKS.—The total reported mortality for the month is 5,448; the percentage of infant mortality being 29.7. The ratio per 1,000 of deaths from all zymotic diseases to the total mortality is 181.85; that from typhoid fever being 23.00; from diarrhœal diseases, 21.17, and from croup and diphtheria, 87.98. From consumption the ratio per 1,000 is 152.59, and from acute respiratory diseases, 131.23. No deaths from small-pox are reported during the month outside of New York city. For the month of October 186 delayed returns have been received, among other places from Hornellsville, Penn Yan, Amherst, Seneca Falls, Flushing and Goshen.

[a] Not including four deaths in Soldiers' Home. [b] Besides six deaths in Monroe County Hospital.

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.

Abstract of reports of deaths and their causes in the following districts, cities and towns, during December, 1885.

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of—	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
MARITIME DIST.: Totals	....	4,174	....	1,548	37.1	18	5	54	49	5	94	9	18	91	424	74	201.25	765	609	42	165	253	226	398	109	149	251	366
NEW YORK CITY	*1,397,395	2,743	23.55	1,048	38.2	15	5	26	27	5	43	6	11	76	293	53	204.15	486	397	26	109	175	152	243	68	102	212	213
BROOKLYN	*665,600	1,184	21.03	426	35.9	0	0	24	15	0	47	3	7	9	110	19	189.18	243	168	13	39	69	61	123	34	37	22	141
Gravesend	5,000	6	14.40	2	33.3	0	0	0	1	0	0	0	0	0	1	0	333.33	2	0	0	0	0	2	0	0	0	0	0
New Lots	'19,000	31	19.58	10	32.3	2	0	1	2	0	0	0	0	0	5	0	322.58	4	2	0	2	2	0	5	0	3	1	2
New Utrecht	4,742	3	7.60	2	66.6	0	0	0	0	0	0	0	0	0	2	0	666.66	0	0	0	0	0	0	0	0	0	0	1
Flatlands	3,127	4	15.35	2	50.0	0	0	0	0	0	0	0	0	0	1	0	250.00	2	1	0	0	0	0	0	0	0	0	0
Newtown	*10,000	10	12.00	4	40.0	0	0	0	0	0	2	0	0	1	1	0	400.00	2	2	0	1	1	0	0	0	0	0	0
Oyster Bay	*12,000	10	10.00	2	20.0	0	0	0	0	0	0	0	0	0	1	0	100.00	1	3	0	1	1	0	2	0	0	0	1
North Hempstead	*7,000	8	13.71	2	25.0	0	0	0	0	0	0	0	0	1	0	0	125.00	2	1	0	0	0	2	1	0	1	0	0
Babylon	4,739	5	12.70	0	....	0	0	0	0	0	0	0	0	0	0	0	....	3	1	0	0	0	0	0	0	0	1	0
Southold	7,267	8	13.21	0	....	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	1	2	0	0	3	0
Southampton	6,352	9	16.95	0	......	0	0	0	0	0	1	0	0	0	0	0	111.11	0	2	1	0	0	0	1	1	1	2	0
Edgewater	10,000	15	18.00	7	46.67	0	0	0	0	0	0	0	0	3	0	0	200.00	1	5	0	1	0	0	1	0	1	2	1
Northfield	7,014	10	17.14	1	10.0	0	0	0	0	0	0	0	0	0	0	0	....	2	2	0	1	0	0	2	2	0	0	1
Westfield	5,289	11	24.90	2	18.1	1	0	0	1	0	0	0	0	0	0	0	181.81	3	2	0	1	0	1	0	1	1	0	0
YONKERS	*22,000	31	16.91	16	51.6	0	0	0	1	0	0	0	0	1	3	1	193.55	8	2	1	2	1	1	7	1	0	2	0
Westchester	*6,900	9	15.65	1	11.1	0	0	0	0	0	0	0	0	0	3	0	333.33	1	5	0	0	0	0	0	0	0	0	0
Mount Vernon	*5,000	10	24.00	2	18.2	0	0	0	0	0	0	0	0	0	1	0	100.00	0	0	1	0	3	0	2	0	0	3	0
Rye	3,500	2	7.00	0	......	0	0	0	1	0	0	0	0	0	0	0	500.00	0	0	0	0	0	1	0	0	0	0	0
Sing Sing	*6,500	11	20.31	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	1	2	2	0	1	2	1
New Rochelle	5,276	9	20.47	2	22.2	0	0	2	0	0	0	0	0	0	2	0	444.44	2	1	0	0	0	1	1	0	0	0	0
Rest of district	....	45	....	14	31.1	0	0	1	1	0	1	0	0	0	1	1	111.11	3	11	0	8	0	2	6	2	2	1	5
HUD. VAL. DIST.: Totals	....	678	....	180	26.7	6	7	21	5	2	3	7	4	2	71	7	205.66	86	100	8	29	23	69	95	24	27	30	46
ALBANY	96,000	150	18.74	45	30.0	1	7	7	0	0	0	0	1	0	22	2	266.67	14	23	3	3	4	22	18	5	2	3	13
COHOES	*20,000	43	25.80	20	46.5	0	0	6	0	0	2	7	0	0	9	0	558.14	4	4	0	0	0	0	4	1	0	3	3
West Troy	13,000	26	24.00	6	23.1	0	0	1	0	0	0	0	0	0	2	0	76 92	8	1	0	1	2	2	5	0	2	0	2
Hoosick Falls	*4,000	5	15.00	1	20.0	0	0	0	0	0	0	0	1	0	0	0	200.00	1	0	0	0	0	2	0	0	0	0	1
TROY	*60,000	83	16.60	24	28.9	2	0	5	0	0	0	0	0	0	3	2	144.58	14	13	3	9	0	12	9	5	2	2	2
Lansingburgh	*9,700	14	17.32	3	21.5	0	0	1	1	0	0	0	1	0	0	0	214.28	3	4	0	1	1	0	0	0	2	0	0

Green Island	*5,000	4	9.60	2	50.0	0	0	0	0	0	0	0	0	0	1	0	250.00	1	0	0	0	0	2	0	0	0	0	0
Greenbush	7,200	8	11.95	5	62.5	0	0	0	0	0	0	0	0	0	2	0	250.00	3	1	0	0	0	0	0	0	1	0	1
Coxsackie	4,000	2	6.00	2	10.0	1	0	0	0	0	0	0	0	0	0	0	500.00	1	0	0	0	0	0	0	0	0	0	0
Catskill	*4,500	10	26.67	4	40.0	0	0	0	0	0	0	0	0	0	1	0	100.00	1	0	0	0	2	4	0	1	1	0	0
HUDSON	*10,000	19	21.80	4	21.0	0	0	0	1	0	0	0	0	0	2	0	157.87	3	3	0	0	1	0	4	1	1	1	2
KINGSTON	21,100	23	13.08	10	43.5	0	0	0	0	0	0	0	0	2	4	1	304.35	5	1	0	2	2	3	1	0	0	2	0
Wawarsing	8,547	5	7.02	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	0	1	1	0	0	0	0
Rosendale	5,000	3	7.20	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	0	2	0	0	0	0
Esopus	4,736	4	10.13	1	25.0	0	0	0	0	0	0	0	0	0	1	0	250.00	0	0	0	0	1	0	2	0	0	0	0
Saugerties	*4,000	2	6.00	0	......	0	0	0	0	1	0	0	0	0	0	0	500.00	0	1	0	0	0	0	0	0	0	0	0
POUGHKEEPSIE	20,200	30	17.82	6	20.0	0	0	0	1	0	0	0	0	0	1	0	66.66	3	10	0	1	0	3	4	3	0	3	1
Fishkill	10,732	14	15.65	4	28.6	0	0	0	0	0	0	0	0	0	4	0	285.71	1	1	0	0	0	1	1	0	3	1	2
Wappinger's Falls	5,000	3	7.20	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	2	0	0	0	1
NEWBURGH	20,000	29	17.40	9	27.5	0	0	0	0	0	0	0	0	0	6	1	241.38	4	3	0	1	1	2	3	1	0	5	2
Port Jervis	9,000	10	13.33	2	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	3	0	1	1	2	0	0	2	0	0
Middletown	10,000	10	12.00	1	10.0	1	0	0	0	0	0	0	0	0	0	0	100.00	2	2	0	0	0	0	3	0	0	1	1
Goshen	4,387	*a*10	27.27	1	10.0	0	0	0	0	0	0	0	0	0	0	1	100.00	1	1	0	0	0	1	2	1	1	0	2
Haverstraw	7,000	8	13.86	3	37.5	0	0	0	0	0	0	0	0	0	0	0	....	3	0	0	0	0	0	1	1	1	1	1
Ramapo	5,000	4	9.60	0	.....	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	1	2	0	0	0	0
Rest of district	....	159	....	25	16.0	1	0	4	2	1	1	0	1	0	15	0	152.86	12	27	2	9	8	11	31	5	9	8	12
ADIRONDACK & NORTHERN DIST.: Totals.	....	175	....	34	19.4	2	...	3	1	...	...	...	1	...	12	1	114.28	9	21	3	15	5	18	20	8	7	20	29
Argyle	3,700	4	13.00	0	......	0	0	0	0	0	0	0	0	0	0	0	... .	0	1	0	0	0	2	0	1	0	0	0
Greenwich	3,861	6	18.62	2	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	2	0	0	0	0	3
Fort Ann	4,267	6	16.87	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	0	0	0	0	1	2	0	0	1	1
Fort Edward	4,880	4	10.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	1	0	2	1
Queensbury	10,000	12	14.40	2	16.6	0	0	0	0	0	0	0	0	0	0	0	....	2	1	0	1	0	1	4	2	0	0	1
Ticonderoga	3,304	1	3.67	0	....	0	0	1	0	0	0	0	0	0	0	0	1000.00	0	0	0	0	0	0	0	0	0	0	0
Crown Point	4,287	8	22.38	4	50.0	0	0	0	0	0	0	0	0	0	1	0	125.00	1	0	0	0	1	0	4	0	1	0	0
Port Henry	2,525	2	9.50	1	50.0	0	0	0	0	0	0	0	0	0	1	0	500.00	0	0	0	0	0	0	0	0	0	0	1
Malone	7,908	5	7.60	3	60.0	1	0	0	0	0	0	0	0	0	3	0	800.00	0	0	0	0	0	0	0	0	0	1	0
OGDENSBURG	11,000	21	22.90	8	38.1	0	0	0	0	0	0	0	0	0	0	0	....	2	2	1	0	1	4	1	0	0	2	8
Gouverneur	*5,500	5	10.91	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	2	0	3	0	0	0	0	0
Ellisburgh	4,812	6	15.00	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	1	1	0	0	0	1	1
Cape Vincent	3,143	2	7.63	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	0	0	0	0	0
Rest of district	....	93	....	12	12.8	1	0	2	1	0	0	0	1	0	7	1	139.79	3	12	2	12	2	4	9	4	6	13	13
MOHAWK VALLEY DIST.: Totals	....	255	....	44	17.2	4	...	4	1	...	10	1	1	1	16	5	168.62	36	28	...	10	15	27	33	15	9	22	17
SCHENECTADY	15,000	25	20.00	5	20.0	0	0	0	1	0	2	0	0	0	4	3	400.00	2	2	0	2	1	4	0	1	2	0	1
Schoharie	3,350	14	50.15	3	21.4	0	0	1	0	0	8	0	0	6	0	0	612.87	0	1	0	1	0	0	2	1	0	0	0
Cobleskill	3,371	1	3.54	1	100.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	1	0	0	0	0
Middleburgh	3,376	3	10.65	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	2	0	0	0	0	0
AMSTERDAM	14,000	22	18.86	6	27.3	3	0	0	0	0	0	0	0	0	1	0	181.81	3	2	0	0	0	3	5	0	3	2	0
Johnstown	*6,000	7	14.10	0	......	0	0	0	0	0	0	0	0	0	1	0	142.85	0	1	0	1	1	0	0	0	0	2	1
Gloversville	*8,000	9	13 50	1	11.1	0	0	0	0	0	0	0	0	0	1	0	111.11	0	3	0	0	1	3	0	1	0	0	0
Little Falls	7,300	3	4.93	1	33.3	0	0	0	0	0	0	0	0	0	1	0	333.33	0	0	0	0	0	1	0	0	0	1	0
Ilion	4,200	5	14.29	2	20.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	2	0	0	0	0	1	0	0
Herkimer	3,000	1	4.00	0	......	0	0	0	0	0	0	0	0	0	0	0	... .	0	0	0	0	0	0	0	1	0	0	0
UTICA	*39,000	55	16.92	12	21.8	0	0	1	0	0	0	0	0	0	4	2	127.27	15	10	0	1	2	6	7	2	0	2	3
ROME	12,045	16	16.00	2	12.5	0	0	0	0	0	0	0	0	1	0	0	125.00	2	1	0	0	2	1	4	2	0	3	0
Boonville	4,000	3	9.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	1	0	1	0	0	0
Camden	3,400	7	24.70	0	......	1	0	0	0	0	0	0	0	0	0	0	142.86	1	1	0	0	0	0	0	1	1	2	0
Waterford	4,326	4	11.10	2	50.0	0	0	0	0	0	0	1	0	0	0	0	250.00	0	0	0	0	0	0	1	0	0	0	2
Ballston Spa	3,300	5	18.18	1	20.0	0	0	0	0	0	0	0	0	0	1	0	200.00	1	0	0	0	0	1	1	0	1	0	0

MONTHLY BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH — (*Continued*).

	Population.	Total number of deaths.	Representing annual death-rate per 1,000 of —	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
Saratoga Springs	10,000	63	14.40	1	8.3	0	0	1	0	0	0	0	0	0	0	0	83.33	2	0	0	1	0	0	3	0	0	3	2
Rest of district	....	12	....	7	11.1	0	0	1	0	0	0	0	1	0	3	0	79.36	9	6	0	2	6	5	9	5	1	7	8
SOUTHERN TIER DIST.:																												
Totals	....	149	....	23	15.6	1	...	3	2	...	...	...	3	...	6	1	106.67	16	17	2	12	8	12	23	6	6	15	16
BINGHAMTON	*20,000	19	11.40	2	22.2	0	0	0	0	0	0	0	1	0	1	0	222.22	5	1	0	0	0	3	4	1	0	2	1
Candor	4,323	3	8.33	0	......	0	0	0	1	0	0	0	0	0	0	0	333.33	0	2	0	0	0	0	0	0	0	0	0
ELMIRA	25,000	30	14.40	5	16.3	0	0	1	0	0	0	0	0	0	1	1	333.33	2	4	0	4	2	2	6	0	3	2	2
Horseheads	3,500	2	6.86	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	0	0	0	0	0	2	0
Hornellsville	10,000	2	2.40	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	0	1	0	0	0	0	0	1
Bath	7,600	14	6.48	1	25.0	0	0	0	0	0	0	0	0	0	0	0	....	1	1	0	0	0	0	0	0	1	0	1
Olean	8,000	11	16.50	5	45.5	1	0	0	0	0	0	0	0	0	1	0	181.81	0	2	0	0	1	1	0	0	1	1	3
Jamestown	12,000	16	16.00	4	25.0	0	0	1	0	0	0	0	1	0	2	0	250.00	4	0	0	2	0	3	2	0	0	0	1
Rest of district	....	62	....	5	8.0	0	0	1	1	0	0	0	1	0	1	0	64.51	4	7	2	6	4	3	11	5	1	8	7
EAST CENTRAL DIST.:																												
Totals	....	205	....	32	15.6	...	...	3	..	..	1	...	...	...	13	2	92.68	28	38	1	8	6	12	27	10	2	24	30
Walton	3,541	4	13.59	2	50.0	0	0	0	0	0	1	0	0	0	0	0	250.00	0	2	0	0	0	0	0	0	0	0	1
Delhi	3,000	5	20.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	1	1	0	1	0
Cooperstown	*3,000	2	8.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	1	0	0	0
Oneonta	*5,000	6	15.20	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	2	0	0	1	2
Worcester	*3,000	3	12.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	1	0	0	0	0	0	0	0	2	0
Cazenovia	4,363	3	8.25	0	....	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	1	0	0	0	0
Canastota	2,500	4	19.20	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	1	0	0	0	1
Baldwinsville	3,000	4	16.00	0	......	0	0	2	0	0	0	0	0	0	0	0	500.00	0	0	0	0	0	0	0	0	0	2	0
SYRACUSE	*65,000	73	13.48	15	20.5	0	0	1	0	0	0	0	0	0	3	1	68.50	14	18	0	2	3	8	6	4	1	2	10
Geddes	7,000	5	8.57	1	25.0	0	0	0	0	0	0	0	0	0	1	0	200.00	0	1	0	0	0	0	0	0	0	0	3
Homer	3,000	4	16.00	2	50.0	0	0	0	0	0	0	0	0	0	1	1	500.00	0	0	0	0	0	0	0	0	0	1	1
Rest of district	....	92	....	12	18.0	0	0	0	0	0	0	0	0	0	8	0	86.87	14	9	1	5	3	4	16	4	1	15	12
WEST CENTRAL DIST.:																												
Totals	....	118	....	14	11.9	...	..	4	1	...	...	...	...	...	3	2	84.74	7	21	...	12	6	15	19	3	2	11	12
AUBURN	*26,000	25	11.54	3	12.0	0	0	0	1	0	0	0	0	0	0	0	40.00	2	5	0	2	0	2	6	0	2	1	4
Ithaca	10,000	7	8.40	0	......	0	0	1	0	0	0	0	0	0	0	0	142.86	0	0	0	1	1	1	2	0	0	1	0
Hector	5,000	6	14.00	0	......	0	0	1	0	0	0	0	0	0	0	0	166.67	1	0	0	0	0	0	1	1	0	2	0

Manchester	*4,000	2	6.00	1	50.0	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	1	0	0	0	0
Phelps	*7,000	2	3.48	0	......	0	0	1	0	0	0	0	0	0	0	0	500.00	0	0	0	0	0	1	0	0	0	0	0
Geneva	*6,000	11	22.00	2	18.2	0	0	0	0	0	0	0	0	0	0	0	....	1	3	0	2	2	0	0	1	0	1	1
Lima	*2,800	3	12.85	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	2	0	0	0	0	0	0	0	0	1
Rest of district	....	62	....	8	12.9	0	0	1	0	0	0	0	0	0	3	2	96.77	3	11	0	6	3	11	9	1	0	6	6
LAKE ONTARIO & WESTERN DIST.: Totals.	....	324	....	35	10.8	1	...	4	1	...	4	...	1	1	24	1	114.20	37	41	5	22	14	26	47	17	10	32	36
OSWEGO	*24,000	26	13.00	3	11.5	0	0	1	0	0	0	0	0	0	1	0	76.92	5	4	1	0	1	3	1	2	0	4	3
Richland	4,000	6	18.00	0	......	0	0	0	0	0	0	0	0	0	1	0	166.66	0	1	0	0	0	0	1	0	0	3	0
Fulton	*4,000	5	15.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	2	0	0	0	0	1	1	0	0	0
Lyons	*6,000	11	22.00	3	27.3	0	0	0	1	0	0	0	1	0	0	0	181.81	2	0	0	0	0	2	3	0	1	0	1
Newark	3,500	6	20.57	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	2	0	0	0	0	1	2	1	0	0	0
Palmyra	*4,800	6	15.00	1	16.7	0	0	0	0	0	0	0	0	0	0	0	....	1	1	1	1	0	0	1	0	0	0	1
ROCHESTER	*101,000	147	17.46	49	33.3	0	0	1	0	0	3	0	0	0	17	0	142.85	15	21	2	9	8	8	21	5	3	13	21
Brockport	4,500	6	16.00	1	16.7	0	0	0	0	0	1	0	0	0	1	0	333.33	1	1	0	0	0	1	0	1	0	0	0
Greece	*5,000	3	7.20	1	33.3	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	1	0	0	1
Brighton	3,736	c4	12.85	0	......	0	0	0	0	0	0	0	0	0	1	0	250.00	1	0	0	0	0	0	1	0	0	1	0
Albion	5,000	5	12 00	3	60.0	1	0	0	0	0	0	0	0	0	0	0	200.00	1	0	0	0	0	1	2	0	0	0	0
LOCKPORT	16,000	13	9.75	0	......	0	0	0	0	0	0	0	0	0	0	0	....	1	1	1	0	0	2	1	2	1	0	4
Amherst	4,518	2	5.31	0	......	0	0	1	0	0	0	0	0	0	0	0	500.00	0	0	0	0	0	0	0	1	0	0	0
Hamburg	3,235	2	7.42	0	......	0	0	0	0	0	0	0	0	0	1	0	500.00	0	0	0	0	1	0	0	0	0	0	0
Aurora	3,000	1	4.00	0	......	0	0	0	0	0	0	0	0	0	0	0	....	0	0	0	1	0	0	0	0	0	0	0
Rest of district	....	81	....	13	16.0	0	0	1	0	0	0	0	0	1	2	1	61.72	7	10	0	10	4	8	13	3	5	11	5
Totals for the State.	....	6,096	....	1,918	37.3	32	12	99	60	7	112	17	28	95	572	93	185.42	985	880	61	273	330	408	665	192	214	405	556

REMARKS.— The total reported mortality for the month is 6,078; fifty returns have been received additional, of which three are from Newtown, four from Malone, six from Westfield and ten from Seneca Falls. The ratio per 1,000 of deaths from all zymotic diseases to the total mortality is 185.42; that from typhoid fever being 16.24; from diarrhœal diseases, 15.26, and from croup and diphtheria, 93.77. From consumption the ratio per 1,000 is 141.80, and from acute respiratory diseases, 161.00. Five deaths from small-pox are reported from New York city, and one each from the towns of Kinderhook and Saugerties, no other cases having developed in the latter localities. From typhus fever five deaths are reported from New York city and seven from Albany, where an outbreak has occurred in the county penitentiary. No returns are received for the month from Long Island City. For November 165 delayed returns have been received.

a Four of these in public institutions.

b Besides eleven deaths in Soldiers' Home.

c Besides six in public institutions.

SUMMARY OF MORTALITY OF THE STATE OF NEW YORK, FOR THE YEAR 1885, AS PUBLISHED IN THE MONTHLY BULLETIN.

Totals of Mortality in the several Sanitary Districts for the Year.

	Total number of deaths.	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.
Maritime District	55,021	22,436	40.8	233	18	488	718	28	989	948	230	694	3,207
Hudson Valley District	8,941	2,688	30.0	86	7	249	95	3	63	109	25	48	580
Adirondack and Northern District	2,428	626	25.8	20	....	47	12	1	19	11	11	28	175
Mohawk Valley District	3,174	647	20.4	32	....	62	19	....	19	36	20	12	142
Southern Tier District	1,741	404	23.2	10	....	41	21	....	20	18	14	14	48
East Central District	2,444	537	22.0	26	....	48	21	1	10	14	11	8	80
West Central District	1,812	306	16.9	15	....	45	24	....	3	3	12	7	41
Lake Ontario and Western District	4,745	1,258	26.5	24	....	99	31	....	53	31	31	22	235

SUMMARY OF MORTALITY, ETC.—(*Continued*).

	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
Maritime District	5,828	243.20	8.036	7,896	648	2,813	3.095	2,863	6,252	1,087	1,989	2,909	5,056
Hudson Valley District	560	204.10	1,059	1,295	99	496	370	717	1,216	238	333	523	767
Adirondack and Northern District	113	180.00	268	359	38	149	84	209	253	66	89	217	269
Mohawk Valley District	183	168.55	366	456	41	185	111	263	452	99	115	293	268
Southern Tier District	97	161.40	195	199	31	132	51	145	253	68	86	135	163
East Central District	146	182.10	286	342	22	149	86	197	291	89	104	212	301
West Central District	90	132.45	196	281	22	138	85	167	275	58	80	218	152
Lake Ontario and Western District	285	170.90	460	617	73	280	189	337	658	177	198	390	555

SUMMARY OF MORTALITY, ETC.—(*Continued*).

Totals of Mortality of the State by Months.

	Total number of deaths.	Deaths under five years.	Percentage of deaths under five years to total deaths.	Cerebro-spinal fever.	Typhus fever.	Typhoid fever.	Malarial diseases.	Small-pox.	Scarlet fever.	Measles.	Erysipelas.	Whooping cough.	Croup and diphtheria.
January	6,571	2,163	32.9	42	2	92	64	....	127	177	29	58	443
February	6,606	2,288	34.3	40	1	52	70	....	126	154	41	53	412
March	7,391	2,561	34.6	40	....	60	71	....	135	180	63	67	352
April	7,016	2,275	32.5	31	....	68	75	1	141	191	44	56	326
May	6,542	2,094	32.2	53	1	55	74	....	122	165	38	47	319
June	6,204	2,483	40.0	37	1	54	74	3	106	128	32	46	319
July	9,318	5,066	54.4	41	2	61	89	4	89	97	14	77	284
August	7,284	3,405	46.7	43	1	104	103	....	57	28	19	123	260
September	6,251	2,306	37.0	35	....	145	110	5	39	10	12	98	314
October	5,680	1,853	32.6	27	4	151	85	5	53	6	15	61	429
November	5,448	1,620	29.7	25	2	126	69	8	77	17	19	53	478
December	6,096	1,913	31.4	32	12	99	60	7	112	17	28	95	572
Total	80,407	30,027	37.3	446	26	1,067	944	33	1,184	1,170	354	834	4,508

SUMMARY OF MORTALITY, ETC.—(*Continued*).

	Diarrhœal diseases.	Zymotic deaths per 1,000 deaths from all causes.	Acute respiratory diseases.	Consumption.	Puerperal diseases.	Diseases of digestive system (not diarrhœal).	Diseases of urinary system.	Diseases of circulatory system.	Diseases of nervous system.	Cancer.	Accidents and violence.	Old age.	Unclassified.
January	104	111.20	1,078	1,028	93	329	371	404	691	148	165	425	701
February	89	125.37	1,396	929	95	302	338	437	712	149	190	456	564
March	113	146.08	1,684	1,083	118	329	368	481	812	165	200	467	603
April	106	132.55	1,441	1,049	94	347	395	487	761	81	236	522	564
May	136	154.70	1,038	1,033	94	331	345	407	707	161	312	387	717
June	680	238.55	643	814	78	334	328	432	703	172	277	356	587
July	2,983	401.37	464	883	107	612	348	392	1,052	172	375	413	759
August	1,719	337.31	419	895	54	430	307	347	675	192	267	366	875
September	839	241.08	475	886	59	412	316	358	651	137	271	398	681
October	324	204.22	525	927	58	342	313	362	603	160	238	341	651
November	115	181.85	716	831	63	302	310	388	619	158	249	353	470
December	93	185.42	985	880	61	273	330	408	665	192	214	405	556
Total	7,301	222.17	10,864	11,238	974	4,343	4,069	4,903	8,651	1,887	2,994	4,889	7,728

IN EACH 1,000 DEATHS THERE WERE IN THE—	From typhoid fever.	From diarrhœal diseases.	From croup and diphtheria.	From consumption.
Maritime District	8.87	10.60	58.28	143.51
Hudson Valley District	27.85	62 63	64.87	144.83
Adirondack and Northern District	19.35	46.54	72.08	147.82
Mohawk Valley District	19.53	57.65	44.74	143.67
Southern Tier District	23.55	55.70	27.57	114.25
East Central District	19.64	59.74	32.74	139.93
West Central District	24.78	49 67	22.63	155.08
Lake Ontario and Western District	20.85	60.00	49.53	130.00
The Entire State	13.27	90.80	56.06	139.76

For the entire State the ratio per 1 000 of deaths from all zymotic diseases to the total mortality in 1885 is 222.17, against 269.12 for nine months of 1884. This diminution, as will appear from the forthcoming report of the Secretary, is largely in typhoid fever and the diarrhœal diseases; the conjoined ratio per 1,000 from these diseases is 104.07, against 146.40 in 1884. As these are especially controlled by public hygienic improvements, this indicates the efficiency of the sanitary work that has been done, and is emphasized by the ratio of diphtheria, which depends largely upon domiciliary conditions, viz.: 56.06 per 1,000 total deaths in 1885, and 47.65 in 1884. These three typify the filth diseases. There is no material change in the other zymotic diseases.

Estimating the present population of the State at 5,400,000, an annual death rate of twenty per 1,000 would give 108,000 total mortality. The reported mortality with about 3,000 death reports received after the bulletin is issued, and the mortality of Buffalo, account for about 88,000 deaths. During the year about 5,000 more deaths were reported than in 1884, showing that more local boards are organized and that the returns are more complete.

REMARKS.— The SANITARY DISTRICTS into which the State is divided are as follows: *Maritime*, includes New York, Long Island, Staten Island and Westchester county. *Hudson Valley*, all the counties except Westchester on either side of the Hudson river, to the head of navigation, to and including Albany and Rensselaer. *Adirondack and Northern*, the northern section of the State — the counties of Washington, Warren, Hamilton, Essex, Clinton, Franklin, St. Lawrence, Jefferson and Lewis. *Mohawk Valley*, Schenectady, Schoharie, Saratoga, Montgomery, Fulton, Herkimer and Oneida counties. *Southern Tier*, the seven counties along the southern boundary. *East Central*, Sullivan, Delaware, Otsego, Madison, Chenango, Onondaga and Cortland counties. *West Central*, Cayuga, Tompkins, Seneca, Schuyler, Ontario, Yates, Livingston, Genesee and Wyoming counties. *Lake Ontario and Western*, Oswego, Wayne, Monroe, Orleans, Niagara and Erie counties. In the *Maritime* District, population 2,098,580 (census 1880), are the CITIES of New York, Brooklyn, Long Island City and Yonkers; in the *Hudson Valley* District, population 750,143, Albany, Cohoes, Troy, Hudson, Kingston, Poughkeepsie and Newburgh; in the *Adirondack and Northern* District, population 330,434, Ogdensburgh and Watertown; in the *Mohawk Valley* District, population 280,809, Schenectady, Amsterdam, Utica and Rome; in the *Southern Tier* District, population 365,746, Binghamton and Elmira; in the *East Central* District, population 354,320, Syracuse; in the *West Central* District, population 321,247, Auburn; in the *Lake Ontario and Western* District, population 578,705, Oswego, Rochester, Lockport and Buffalo.

[This circular with the accompanying No. 38 of the Board, was sent to border town boards as soon as danger of approach of small-pox from Montreal became threatening.]

STATE BOARD OF HEALTH OF NEW YORK.

ALBANY, *October* 8, 1885.

To the Health Officer of :

DEAR SIR — Be kind enough to bring to the notice of your board of health the desirability of passing and enforcing the following resolution :

"Until further notice from this board, no person shall be permitted to enter this (town or village, as the case may be) without satisfactory evidence of recent vaccination, if coming from Canada, or other places where small-pox is known or believed to exist."

Personal baggage or articles liable to convey contagion from infected places should also be refused admission until disinfected.

Faithfully yours,

ALFRED LUDLOW CARROLL, M. D.,
Secretary.

[No. 38.]

STATE BOARD OF HEALTH OF NEW YORK.

PREVENTION OF SMALL-POX.

Duties of the Local Authorities — Health Officers and Others.

SMALL-POX IS LIABLE TO APPEAR IN ANY PLACE where there are unvaccinated persons. It is dangerous to life, and is a misfortune which causes loss and great disturbance in the affairs of any community that does not immediately secure to every inhabitant the necessary protection by **vaccination** and **re-vaccination**, and by thorough quarantine and disinfection of the contagion.

The Laws in this State require:—

(1.) That all who are in attendance at the public schools shall present evidence of their having been vaccinated; also that after ten days' notice any person may be excluded from school who is not so protected against Small-pox. (Chap. 438, Laws of 1860.)

(2.) That it shall be the duty of all local Boards of Health promptly to report to the State Board of Health every case of Small-pox, and to immediately provide thorough and safe vaccination for all persons who need the same, within the jurisdiction of said local Board; also to isolate and keep in quarantine, and to regulate, prohibit or prevent communication or intercourse with persons, houses and places that have Small-pox.

(3.) That the local Board of Health shall suitably provide places and means for the complete separation and sanitary care of infected persons and things. [See Circular No. 27: "Contagious Disease Refuges."]

VACCINATION IS A PUBLIC DUTY for the protection of the whole community as well as of each individual and family; and it is so necessary to secure its protection in all places and for all classes of people that **none have a right to neglect it** for themselves, their families, the public schools or the community. The State Board of Health has directed its Secretary to give whatever information or advice is needed to secure the most perfect vaccine matter and the speediest and best application of it whenever and wherever it is required.

THE STATE BOARD ADVISES and requires that the law for **vaccination** of all who attend school shall be faithfully observed; and

That every local Board of Health be prepared against Small-pox,—

By an agreement with all physicians to secure perfect vaccination in every house hold where they attend:

By instructions to Health Officers to ascertain who are unvaccinated and exposed:

By notifying the State Board of Health at once, when and where Small-pox appears; and,

By requiring prompt compliance with the local Board's orders, and by immediately instructing and aiding the community in regard to the same.

A WORD OF SUGGESTION AND WARNING TO ALL. *Every infant* should be vaccinated before it is six months old, unless a good physician advises to the contrary. Every person who has passed the age of twelve years should be re-vaccinated to test the fact of complete protection against Small-pox; and those who have had that disease should be vaccinated, as it may attack a person who was marked by it, as well as a person who has been only once vaccinated. **Sufficient vaccination removes all liability** to the disease. For this purpose **re-vaccination is earnestly advised.** Vaccination with lymph from clean and healthy inoculated heifers causes no disease. It can be obtained fresh every day from perfectly healthy calves, and within a day or two can be at hand for use in any town in this State, at a cost of from six to twelve cents for each "slip" or "point." The Board of Health in each of the cities is earnestly requested to keep such a supply of *vaccine* at hand that it can instantly meet any exigency, or furnish a neighboring community with a few points of the lymph at cost. It should be inserted by physicians only, and they should examine the result at the end of seven days.

What to do when Small-pox occurs: —

(1.) Place the sick in a separate room from which all clothing, carpets, upholstered stuff and the quilts and feather bedding have been removed beforehand. In such a room with open windows and an open fire, keep the sick and nurses entirely separated from all other persons until the Doctor and Health Officer take charge. Then **follow their requirements.**

(2.) Let all persons who are near the sick be immediately vaccinated afresh, and let it be understood from the first that all bedding, clothing, towels and cloths which are touched or used by the sick shall be burned if they cannot be otherwise satisfactorily disinfected; and every place where the sick are, where there is anything that has come from or been exposed to them, shall be thoroughly disinfected as soon as possible.

(3.) A separate place, or even a hut constructed for the purpose, should be so prepared as to be safer for the sick than any ordinary dwelling rooms; that is, that the fresh air and sanitary care and nursing shall be the best possible; and that it shall be an apartment and locality from which the contagion will not be spread abroad.

(4.) No delay or objection should prevent the vaccination of all persons who have been in any manner exposed, or suspected of exposure, to the contagion. If fresh **vaccine** is not at hand, the physician, or the Health Officer should telegraph to the nearest person who can supply it. If that request is not immediately complied with, then telegraph to the State Board of Health, or to Dr. J. B. Taylor, Health Department, 301 Mott street, New York.

(5.) In case of death, wrap the corpse in a sheet saturated with the strongest disinfectant, and bury it in a deep grave within twenty-four hours, and without a public funeral.

Among the disinfectants easily attainable are: —

For clothing, bed linen, etc. — Sulphate of zinc and common salt, dissolved together in water in the proportion of four ounces of zinc and two ounces of salt to the gallon.

Two parts of carbolic acid and one part of fresh chloride of lime to a hundred parts of water.

Boiling for half an hour affords efficient disinfection.

For discharges, utensils, corpses, etc. — Five parts of carbolic acid and four parts of chloride of lime to one hundred parts of water.

For privies, sewers, outhouses, etc. — The stronger solution of carbolic acid and chloride of lime, or chloride of lime in powder.

Sulphate of iron (copperas), two pounds to the gallon of water.

Reliance should not be placed upon any of the secret proprietary disinfectants.

For fumigation. — Roll sulphur burned [over a tub containing water] in the proportion of three pounds for every thousand cubic feet of space; the rooms being tightly closed.

Special Recommendations.

The State Board of Health recommends that in whatever city, village or town Small-pox appears, the entire neighborhood in which there has been any communication with the patient, or exposure to the contagion, shall be notified that the *State Board as well as the local Board of Health requires that every person shall be protected by Vaccination;* that whatever materials are infected shall be destroyed by fire or shall be kept in a disinfectant solution and be boiled without removal from the premises; that rooms and furniture suspected of contagion shall be fumigated with sulphur as directed by this Board's rules; that tramps and other persons suspected of infection with Small-pox shall be taken in charge by the police and the sanitary authorities; that **employers shall advise their companies of employed persons to be vaccinated**; and in case of Small-pox in their vicinity, to make such vaccination one of the conditions of being continued in employment. This rule should be strictly enforced in all manufactories that make goods which are liable to become infected, and especially should be a standing regulation in public houses and in all classes employed on railroad trains and passenger vessels.

Form of Report to the State Board of Health and to the Local Board.

(Name and age)
.... is sick with Small-
(Name of house and place)
pox (or varioloid) at.. The
(Date)
eruption began..
It is believed the contagion was taken at..
by exposure to..
Number of Persons now exposed to Patient............
Who has the responsible care and custody of the case? ....
(Signed)..
(P. O. address)..
Request: ____

____

Such a notice, with the request that needs to be made, should be sent to the Health Officer or the nearest member of the local Board of Health. If the physician is already in attendance, he should sign it; but if no physician has reached the patient, the householder and any other person that has charge of the case should sign this first report and request, and send it to the family physician or to the Health Officer. The physician who first sees the case, or the Health Officer, should write out such a brief report and his own request, and send it by mail to the Secretary of the State Board of Health.

Memorandum of Rules to be Adopted to Prevent the Spreading of Contagious Diseases in Schools.

The following sanitary rules are recommended by the State Board of Health for adoption by all School Boards and Trustees. They are presented in a form suited for direct transfer to the Public School Regulations, with the exception of the bracketed [ ] portions, which may depend on local circumstances for their application or feasibility:

I. Every person entering the public schools of .... must give satisfactory evidence of protection against Small-pox, or be excluded until the rule is complied with, as provided by the Statute of 1860. [See synopsis of this Statute as appended.]

II. The fact of vaccination and protection should be entered with each name on the school record [and on transfer or promotion lists, so as to avoid further inconvenience to the pupil].

III. Persons affected with Diphtheria, Measles, Scarlet Fever or Small-pox, must be excluded from school until the School Officers' permission is granted.

IV. Intercourse between the school and family or house where there is a case of any one of these contagions, must be forbidden until the official permission is given.

V. It will be the duty of every teacher and school officer who discovers a case of any of these contagious diseases to cause the fact to be immediately reported to the local Board of Health. [The Board of Health should assume the sanitary duty of quarantining and disinfecting, as well as that of permitting the pupil's return, etc.]

VI. If a child is ascertained to have attended school while affected with any of these contagions, the local Board of Health shall be requested to direct the proper disinfection of the school premises. In the absence or delay of such sanitary authority, the physician in attendance, with one of the school officers, should direct this duty in accordance with the Rules for Disinfection and Cleansing given by the State Board.

VII. Rule III must invariably include all persons from the family where the case of sickness exists. [It should extend, also, to all persons living in the same house at the discretion of the local Board of Health.]

VIII. [It is desirable that all cases known to the Board of Health should be at once reported to the school authorities; and the latter should request the Board of Health to do so; and every teacher and school officer not only should promptly inform the Health authorities of each known or suspected case of contagious disease, but should endeavor to have the sanitary rules enforced, and give proper information to the families concerned.] In such instances the duties of all these officers and persons are reciprocal, and none can prudently be neglected.

SYNOPSIS OF THE STATUTES RELATING TO CONTAGIOUS DISEASES IN TOWNS AND SCHOOL DISTRICTS.

The Statute (chapter 438, Laws of 1860) makes the following provisions:

1. The trustees of school districts, and the school boards, are empowered to exclude from the public schools all unvaccinated persons until they are vaccinated.

2. This power may be exercised by trustees or boards, after passing a resolution to that effect, and posting a notice for at least ten days in two or more conspicuous places within the limits of their respective school-board or district organizations Such notice should offer free vaccination to those unable to pay.

3. The trustees or Board are further empowered to employ and pay a physician, who shall make a list of all persons within the school ages that have not been vaccinated, and provide with certificates of vaccination those persons whom the said trustees or Board directs. [The local Board of Health is required, under chapter 270, of 1885, to supply all the necessary means for gratuitous vaccination, and it is declared to be its duty *to make all needful provisions for immediately obtaining the necessary means for thorough and safe vaccination of all persons within the said jurisdiction who may need the same.*]

4. The amount expended is to be included in the annual tax bill. [The new law enables the town, village or city to meet the expense by its local Board of Health.]

5. The trustees of school districts are required to include in their annual report the number in their several districts between the ages of five and twenty-one who are vaccinated, and the number not vaccinated. [Every local Board of Health should require compliance with this law]

STATE BOARD OF HEALTH OF NEW YORK.

ALBANY, , 188 .

To the President of the Board of Health of :

At a recent meeting of the Civil Service Commissioners, the following resolution was adopted and transmitted to this office:

"That inasmuch as only a limited number of health officers has been appointed and examined under the civil service rules, and the necessity for promptly filling all of those positions seems to be urgent, and the State Board of Health appears to be the proper body to take the initiative; therefore the Civil Service Commission respectfully requests the State Board of Health to urge all local health boards to take immediate steps for the appointment of qualified health officers in all localities where appointments have not already been made."

In pursuance of the above request, I beg to notify you that your board is required to forward to the office of the Civil Service Commission, at Albany, the name and address of the person chosen by you for the position of health officer, in order that arrangements may be made to determine his competence.

Under the civil service rules, your board can either name one physician for non-competitive examination, or two or more for competitive examination. No appointment otherwise made is valid.

ALFRED LUDLOW CARROLL, M. D.,
Secretary and Executive Officer.

EFFLUVIUM NUISANCES.

EFFLUVIUM NUISANCES.

The committee on effluvium nuisances submits the details of the work undertaken by it during the past year. A careful surveillance over the operations of the factories on Barren island and Newtown creek has been maintained, and special investigations made in response to petitions. A great mitigation of the offensive effluvia was effected during the summer by the suspension, during the warm months, of the super-phosphate works of Messrs. Coe & Co.

A complaint was received from Sheepshead Bay on the 8th of June to the effect that the drainage from the hotels at Sheepshead Bay and Coney Island was rapidly filling up the bay and polluting the lands and wells. This being properly a local matter, the communication was referred to the local board of health for examination. A very full return was made by the local board, which shows their entire ability to deal with the question.

On the 10th of June petition was received from citizens of Brooklyn complaining of a nuisance from Newtown creek. The subject was called to the attention of the board of health of Newtown. A State inspector was also sent to look into the merits of the complaint. He found that the nuisance was caused by a large quantity of fresh bones that were allowed to be exposed to the air and flies, and also to pouring into the air of gases from the retorts in which the bones are distilled. Remedies were suggested by the inspector, and a promise secured that the nuisance would be abated.

The condition of the factories on the island is shown in the inspector's report dated July 2d. Various improvements were noted: Steinfel's super-phosphate works had suspended for the summer months. The open platforms for the storage of fertilizers had been replaced by suitable sheds and a general cleaning up had been effected. The only serious nuisance then remaining arose from the delay in transferring loads of dead animals from the boats to the cooking vats. This can only be overcome by the quick handling of such material on its arrival.

Inspector Bartley, under date of August 14th, notes the improved condition of the factories, and the abatement of a nuisance in the bone-burning establishments of Mr. C. Meyers, Jr., and Messrs. Moller & Co., caused by an abortive attempt to destroy the gas from their retorts, in which the bones are charred, by conducting it into the main chimney. The remedies suggested were the forcing of the gas into the fire by means of a steam aspirator. This method was adopted with success.

Inspector Hollick, in noticing the transformation wrought on the island by the constant supervision of the board's inspectors, says that a visitor would hardly recognize the island to-day as the same place it was five years ago. Later, on October 20th, it was found that Moller had discovered that the method of disposing of the residual gases, by conducting them into the furnace as above noted, cooled the fires, and a change was effected whereby the gases were conducted behind the fire, where they were not consumed. The old nuisance was again felt. The opinion of the Attorney-General was sought as to how Moller might be forced to abate the nuisance. A decision was rendered to the effect that the local board of health of the vicinity had ample power in the premises. The inspector, however, obtained the promise from Mr. Moller that he would introduce certain specified improvements which would secure the desired end, so that a resort to a legal remedy was rendered unnecessary for the present.

The pollution of Newtown creek by the sewage of a portion of the city of Brooklyn, and by the discharge into it of more or less of the tarry wastes from the factories situated along its banks still remains. The proposed new sewer for Brooklyn, however, is expected to work a vast improvement in this respect. On the whole, it is gratifying to the committee to note the success of its efforts during the past year, and to witness the vast results accomplished since the committee was first appointed.

The chairman of the committee on effluvium nuisances, in regard to Barren island, against which complaints have been made, requested the inspector, Mr. Arthur Hollick, to visit and examine the six most offensive establishments upon the island and to report to him, for the information of the State Board of Health, the result of his investigations. Mr. Hollick's report will be found annexed.

The chairman also visited in person the proprietors of the leading manufactories and contractors, causing and producing the offenses on Barren island, of which complaints in past and present time have been made, and has requested them to put upon record the precise work in which they were engaged and in regard to which they were assured that the spirit and letter of the State Health laws would be observed and proper performance of work would be exacted by the Board in the common interest of the people upon the island and the community at large. The communications, as far as received, will be found annexed.

Mr. Coe promises to suspend his work during the warm months of this year.

ERASTUS BROOKS,
Chairman.

APPENDED DOCUMENTS.

STATE BOARD OF HEALTH OF NEW YORK,
BUREAU OF CHEMICAL ANALYSTS,
NEW BRIGHTON, *June* 3, 1885.

HON. ERASTUS BROOKS:

DEAR SIR — According to your instructions I have this day visited Barren Island. The small steamboat that plies between the island and Canarsie is running four trips per day, but is to be taken off next Tuesday for repairs, and will not resume for about ten days from that date.

I ascertained that Mr. Harrison is the public school teacher on the island, which is included in the town of Flatlands.

The date of my detailed report upon Barren Island is October 31, 1884, to which I would respectfully refer you for general information. The following memoranda in regard to the six establishments located there were taken to-day:

COE'S FERTILIZER WORKS.

E. Frank Coe, 16 Burling slip, promised last autumn that they would cease mixing this summer as during previous summers. Have as yet obtained no hint in regard to the matter. April 2d, of this year one of the boilers blew up, killing two men and wrecking part of their plant; the resulting fire was put out by the copious use of "sludge acid," which has left things in a rather poor condition.

WHITE'S OFFAL RENDERING WORKS.

P. White's Sons, 41 Peck slip. The only change made has been to build a shed for the storage of their meat scrap. This is in the nature of an improvement, as it prevents the scrap from being acted upon by sun and rain. As they still have the contract for removing the dead animals and offal from New York city I suppose that their establishment will be the same inevitable nuisance that it always was.

STEINFELS' FERTILIZER WORKS,

B. Steinfels, 182 Front street. All their work is done in the open, on exposed platforms and is certain to be very offensive in hot weather. It would be well to insist upon adequate cover being provided, in the form of sheds, for the proper storage of their material. I understand that it is proposed to enlarge the business considerably this year. Hawkins and Friedlaender's fish factories remain exactly the same as when I reported last autumn. Fishing was commenced this year on the 18th of May.

McManus' establishment is in the nature of an experiment station. It is a small plant, consisting of a boiler and still. Last year Mr.

McManus experimented upon sludge acid — trying to distill an oil from it. This year he is engaged in distilling offal, trying to make sulphate of ammonia. The entire place is too small to be of any consequence.

The three first named are the ones from which most of the offense arises. Of these Coe will probably cease mixing during the summer, White has already ceased, and Steinfels has done nothing whatever toward lessening or removing the nuisance he creates.

Very respectfully yours,
ARTHUR HOLLICK.

NEW YORK, *June* 6, 1885.

Hon. ERASTUS BROOKS, *West New Brighton, Staten Island, N. Y.:*

DEAR SIR — For the past five years we have endeavored to conduct our business upon Barren Island in such a manner as to be the least nuisance possible to any one, and especially during the summer months, and to that end we have stopped the objectionable portion of our works for that time, at great expense to us. This year we shall stop as usual, which we trust will be satisfactory to your honorable Board.

E. FRANK COE,
J. D. FAIRCHILD.

NEW YORK, *June* 12, 1885.

Hon. ERASTUS BROOKS, *State Board of Health:*

DEAR SIR — In answer to your inquiry concerning our method of disposing of the dead animals, butchers' offal, etc., received by us under our contract with the city of New York, we would state: All the dead animals, butchers' offal, etc., are removed daily at nine A. M., from our dock foot of West Thirty-eighth street, by steamboat to Barren Island, where they are unloaded within one hour after arrival, and by six P. M. of same day the entire load is disposed of in steam-tight tanks. Our entire factory is thoroughly sprinkled with disinfectant three times each day, the cutting-up floor flushed and washed down, and all the offal boxes and barrels in which the offal is received are disinfected and whitewashed before returning them. The material we handle is a nuisance before we receive it, and our best endeavors are directed to remove and take care of it in the least offensive and objectionable manner.

Very respectfully,
P. WHITE'S SONS.

To the State Board of Health, Albany, N. Y.:

The undersigned, citizens and tax payers of the city of Brooklyn, several of whom were your petitioners a year ago, desire again to call your official notice to the vile and nauseating odors which pervade this portion of the city, coming from the bone-boiling and bone-burning establishments, just outside the city limits, at Newtown creek and Grand street.

Upon your official order, June, 1884, the matter of our complaint was referred to the chemist of your honorable Board, and he was satisfied, and reported accordingly, that the stenches came from the source already mentioned.

During the winter the unpleasant smell was not so frequently noticeable, but of late, when the wind is from a north-easterly direction, the odors are disgusting in the extreme. Probably several hundred thousand persons are annoyed, and many injured in their health from this cause. During the evening and night the smell is so intolerable as to necessitate the closing of windows, which seriously interferes with proper ventilation.

There is reason to believe that many families had supposed these noxious odors to arise from defective plumbing in their dwellings, and have been put to needless and unavailing expense in their attempts to escape the annoyance.

If this nuisance is allowed to continue, it will render a very considerable portion of the city undesirable as a place of residence, and thereby greatly depreciate the value of real estate in a neighborhood which is rapidly growing in population and wealth, and now gives promise of more rapid growth from increased facilities of rapid transit, arising from the completion and opening of the Brooklyn Elevated railroad.

In view of the fact that we have long suffered from the cause already described, and fearing the near future may bring to us fatal epidemic of disease, we respectfully petition that your honorable Board give the matter immediate attention, and that, if necessary, you invoke the aid of the chief executive of the State in *promptly* and *permanently suppressing* this *terrible nuisance.*

Dated BROOKLYN, N. Y., *June* 10, 1885.

Walter B. Chase, M. D., 636 Willoughby avenue.
J. A. McCorkle, M. D., 149 Clinton street.
Lewis R. Foote, 523 Willoughby avenue, Pastor of the Throop Avenue Presbyterian Church.
Thomas J. Atkins, 631 Willoughby avenue
T. C. Packer, 100 Sumner avenue.
Darwin R. James, 282 Throop avenue.
George R. Howler, M. D., 457 Marcy avenue.
J. Hyatt Smith, 109 Hart street.
Alexander Hutchins, M. D., 796 DeKalb avenue.
Henry Heath, 142 Macon street.
George M. Nichols, 277 Adelphi street.
W. C. Bowers, 483 Washington avenue.
George G. Collins, 301 Throop avenue. *Alderman.*
R. L. Scott, 897 Greene avenue.
John M. Quintard, 431 Greene avenue.
Hosea O. Pierce, 655 Willoughby avenue.

Ira C. Cook, 691 Willoughby avenue.
Robert Henderson, 686 Willoughby avenue.
Henry A. Phillips, 843 Willoughby avenue.
B. W. Bradley, 503 Willoughby avenue.
N. J. Gates, 636 Greene avenue.
Philip Krieger, 896 Myrtle avenue.

DURHAM, N. Y., *June* 12, 1885.

To whom it may concern:

My house is at 523 Willoughby avenue, Brooklyn, N. Y. I was confined to my room by reason of severe illness for seven weeks, beginning April 20. Frequently during the month of May, beginning at night-fall, the stench coming from the nuisance complained of was so great, the air was so offensive and stifling, as to cause positive discomfort; on this account I was compelled on a warm summer night, in the confined air of a sick-room, to raise the question of closing the windows to escape this foul odor that would otherwise fill my room.

LEWIS R. FOOTE,
Pastor Throop Avenue Presbyterian Church.

June 20, 1885.

A. L. CARROLL, M. D., *Secretary State Board of Health, Albany, N. Y.:*

DEAR SIR — I send you by this post, under another cover, a petition asking your honorable body to take immediate steps to suppress the nuisance of bone-boiling and bone-burning at Newtown creek and Grand street.

The community feel that they are entitled to relief, and confidently appeal to you for it, desiring, so far as consistent with the proper conduct of your affairs, that you keep us informed as to what you are doing in the premises.

I have no reluctance in saying that the gentlemen who have signed the petition are among the leading citizens of the city. Representing the medical profession is Dr. Alex. Hutchins, late president Medical Society State of New York, Dr. James A. McCorkle, president Medical Society county of Kings, and Dr. George R. Fowler, surgeon to St. Mary's Hospital. Hon. Darwin R. James, M. C., and Rev. J. Hyatt Smith, late M. C., General Henry Heath, member of Assembly from this district, John C. Cook, late president New York Metal Exchange, Supervisor L. W. Beasly, and five of the aldermen of the city, together with Mr. H. O. Pearce, Rev. L. R. Foote and other gentlemen, several of whom represent large financial and commercial interests.

You will understand the annoyance sick people suffer, from the letter of Rev. Mr. Foote; the truth is the stench is so intolerable that well people are frequently at night compelled to close their windows.

Many other names could have been added to the petition, but with the knowledge you already possess, it seems all that is needed is *action* on the part of *those in power*, to whose *just* and *prompt action* we appeal.

Hoping for an early acknowledgment, I am, sir, yours truly,

WALTER B. CHASE.

P. S.—You have probably received from Dr. Raymond, health officer of the city, before this date, a letter setting forth his views of the needs of the situation.

W. B. C.

INSPECTION OF NEWTOWN CREEK.

STATE BOARD OF HEALTH OF NEW YORK,
ALBANY, *June* 30, 1885.

To the Supervisor of Newtown:

DEAR SIR—Some days ago a petition was received at this office from a large number of influential citizens of Brooklyn, complaining of alleged nuisances emanating from bone-boiling and bone-burning establishments, just outside their city limits, at Newtown creek and Grand street.

In response to this petition Dr. Bartley has been deputed by this Board to verify the causes of complaint, but as the matter lies within your jurisdiction, I trust that your board will co-operate with him in an investigation, and, if nuisances be found to exist as represented, that you will take prompt measures for their abatement.

Faithfully yours,

ALFRED LUDLOW CARROLL, M. D.
Secretary.

BROOKLYN, N. Y., *July* 2, 1885.

Dr. ALFRED L. CARROLL:

DEAR SIR—In accordance with your instructions, I visited the region along Newtown creek in company with one of the complainants of this city, who identified the odor complained as that produced by Mr. Meyer's and Mr. Moller's fertilizer works.

After consultation with the complainants, by appointment, I thought this the best plan to fix the location of the offending parties. I find two causes for the nuisance complained of, viz.: A large quantity of fresh bones allowed to lie exposed to the air and flies for weeks; also, the pouring into the air of the gases from the retorts in which the bones are distilled. These gases are, in my opinion, the chief source of the trouble. After passing the gases through condensers, such as are used in ordinary gas-houses, they are forced through a tank containing sulphuric acid to collect the ammonia. They are then conducted through a long flue to the chimney, which they enter at about ten or twelve feet above the fire. This is evidently an ineffectual attempt to burn the gases.

At my suggestion, both these gentlemen promised to so change the apparatus as to force these residual gases into the fire itself, and thus completely consume them. By the aid of a steam blower this can be done with very little expense, and they signified their entire willingness to make the change immediately. I have already communicated the result of my visit to the complainants, and I have no doubt that the trouble can be remedied without any other action than our advice. They also promised to remove the bones spoken of above, and hereafter to work them up as they come in. I shall make another inspection as soon as convenient, and report to you the results.

Very respectfully yours,
E. H. BARTLEY, M. D.,
Inspector.

DRAINAGE AT SHEEPSHEAD BAY.

SHEEPSHEAD BAY, *June* 6, 1885.

To the Honorable Board of Health:

DEAR SIRS — Your attention is respectfully called to the drainage at Sheepshead Bay, and also to the Manhattan Beach and Oriental hotels' artesian well, or water supply at this place. The New York *Herald* has had a communication from me in reference to this subject for one month, but for some unseen reason hesitates to publish the same. The drainage from the hotels at Sheepshead Bay and Coney Island is rapidly filling up the bay, and polluting the lands and wells surrounding it, and if something is not speedily done in reference to the matter, disease and ruination stares this place in the face. The local board of health seems powerless, except so far as expensive sewerage is concerned, which, in case of our acceptance of the same, they have given us to understand, that we can sewer in the bay contrary to law, and the complaints, if any are made, can be referred to them. I inclose a communication from one of the *Herald* staff which will give you some idea of the existing state of affairs, he having engaged rooms at the St. Elmo, and properly canceling the engagement after personally inspecting Sheepshead Bay, thereby backing up, as he says, their reporters' own views. The Manhattan Beach water supply, or artesian well, is surrounded with water-closets and sink-drains, twelve of which belong to tenement and store property, and these are as close as seventy-five feet, and all within 150 feet of the pump, which supplies Manhattan Beach and Oriental hotels.

Yours respectfully,
E. A. MASON,
St. Elmo Villa, Sheepshead Bay, L. I.

On June 8, a copy of the above complaint was forwarded to the local board of health and a report of the facts asked for.

Return made by the Local Board of Health.

GRAVESEND, N. Y., *July* 23, 1885.

To the Honorable, the State Board of Health at Albany, N. Y.:

GENTLEMEN — Concerning the charges against the health of Sheepshead Bay and Manhattan Beach water supply, the Health Officer, R. L. Van Kleek, has made the following report with analysis attached:

To the Honorable Board of Health, Gravesend, N. Y.:

GENTLEMEN — The complaint of E. A. Mason, forwarded to you by the State Board of Health and referred to me at your last meeting for investigation and report, has received consideration, and I would respectfully submit the following report for your consideration and action.

The complaint alleges: First, that the drainage from the hotels of Sheepshead Bay and Coney Island is rapidly filling up the bay; and, secondly that the water supply of Manhattan Beach is rendered dangerous by being surrounded by water-closets and sink drains; twelve of which belong to tenement and store property, and these are as close as seventy-five feet, and all within 150 feet, of the pump which supplies the Manhattan Beach and Oriental hotels.

The first allegation is evidently made without any examination whatever into the facts of the case by the complainant, and will be dismissed with a very few words.

I have at different times within the last few years, and as lately as June 1, made personal inspections of nearly all the sewers emptying into the bay, and I have failed to find one instance when solids are allowed to run therein; and neither has a single complaint prior to the present one been made within the last two years in reference to this subject.

The second allegation has involved not only an inspection of all the privy vaults and cess-pools within 200 feet of the wells referred to, but also a chemical analysis of the water.

The distance of these water-closets and cess-pools from the wells is as follows:

The nearest water-closet is 50 feet; the next is 90 feet; the third is 100 feet; the fourth is 115 feet; the fifth is certainly 150 feet; the sixth, 200 feet.

The nearest cess-pool is 140 feet distant, the second cess-pool is 166 feet; the third is 186 feet; so within 75 feet we have but one water-closet instead of twelve, as alleged by the complainant, and within 175 feet we have four additional ones, besides two cess-pools.

All these vaults and cess-pools are, at present time, in good condition, and I find no violations of your regulations in regard to them.

The wells supplying the beach are situated on the east side of the railroad track ; the first one is 30 feet north-east of the pump-house ; the tenth one and last is distant 287 feet in the same direction ; they are constructed with special reference of preventing contamination in the most approved manner, and are all 30 feet deep. When they were constructed there was not a single dwelling within 1,000 feet, and the company had no reason to suppose that there would be a dwelling near them for a long period of time. But within the last three years about twenty-five buildings have been erected within 500 feet of the pump-house, and it is possible that each year will see more buildings erected in this locality. All these buildings and in fact all Sheepshead Bay village, containing in the summer season 2,500 individuals at least ; are supplied with water from wells half a mile to the north, and pass through the ordinary size iron pipes. The supply is unlimited, but there is no corresponding sewerage, and this will make soil-saturation with decomposing waste absolutely certain.

As the complainant refers to the health of Sheepshead Bay that it is threatened, let me call your attention to the following facts: During 1884 there was one death on Manhattan Beach, and this was due to heart disease, and but one death at Sheepshead Bay that could even indirectly be attributed to disease contracted through filth, and probably the disease was contracted elsewhere than in this village. The ratio of deaths to the population is no larger here than in any other district of the town.

To conclude, I would report : First, that the bay is not filling up by drainage from the hotels of Sheepshead and Coney Island ; second, that the water supply to Manhattan Beach is not contaminated, as shown by analysis. I would recommend, however, the removal of the wells within 200 feet of cess-pools and vaults to a point further distant to prevent any possible contamination in the future, and I would recommend some system to carry off the water caused by a liberal water supply to prevent soil-saturation.

Respectfully,
R. L. VAN KLEEK,
Health Officer.

Since writing up the above report I have been informed that the Manhattan Beach Improvement Company intends, this autumn, to remove their wells to a point distant about one-fourth to one-half of a mile north of their present location.

R. L. VAN KLEEK.

NEW YORK, *July* 2, 1885.

Result of analysis of a sample of water marked "Manhattan Beach Supply," drawn and sealed by our agent, June 30, 1885, at Sheepshead Bay :

	Grains in U. S. gallon.
Odor when heated to 100 degs.	none
Chlorine	2.188
Phosphoric acid	trace
Nitrogen in nitrates	.020
Free ammonia	.001
Albuminoid ammonia	.002
Hardness	5.500
Total solids	8.750
Organic volatile	3.500
Mineral	5.025

According to chemical standards the water is a good drinking water.

Respectfully,
STILLWELL & GLADDING,
Chemists to the New York Produce Exchange.

The following resolution was then adopted, to-wit:

Resolved, That the report of the health officer be received, and that the secretary of this board be directed to forward a certified copy of the report to the State Board of Health, at Albany, N. Y.

Adopted July 2, 1885.

I, John L. Voorhies, secretary of the board of health of the town of Gravesend, county of Kings, State of New York, hereby certify that the within is a true copy of a report from the health officer of said board of said town, presented to the board at a meeting of said board held July 2, 1885, as the same appears upon the minutes of the proceedings of said board.

[L. S.] JOHN L. VOORHIES,
Secretary of the Board of Health and Town Clerk of Gravesend, N. Y.

INSPECTION OF BARREN ISLAND.

STATE BOARD OF HEALTH OF NEW YORK,
ALBANY, *July* 2, 1885.

The inclosed report from Mr. Hollick shows the condition of affairs at Barren Island at the present time. It was the opinion of the committee that the manufacturers were endeavoring to comply with the previous recommendations of the State Board of Health in carrying on the business in as inoffensive a manner as possible.

J. SAVAGE DELAVAN, M. D.,
Chairman.

NEW BRIGHTON, N. Y., *June* 30, 1885.

J. SAVAGE DELAVAN, M. D., *Chairman Committee on Effluvium Nuisances:*

SIR — According to instructions from you I beg leave to submit the following memoranda noted during our visit to Barren Island, to-day:

At Mr. E. Frank Coe's fertilizer works, all operations, except shipping the finished material, had ceased. The sludge acid tanks were empty, and the manager, Mr. Fairchild, stated that the last mixing had been done on the twentieth instant, when the works were shut down for the summer. The factory is now in process of "cleaning up" and work will not be resumed until September, according to Mr. Fairchild's promise. This I understand is done voluntarily, with the desire to avoid any nuisance that might arise during the hot weather from the souring of sludge acid.

The fish factory of Hawkins Bros. was working at almost its full capacity. The present season has not been a good one for curing the fish, as there has been but little clear hot weather; in this business the main desideratum is sunshine, and but very little nuisance will arise if the scrap is quickly cured.

The fertilizer works of B. Steinfels were in better condition than at any previous time since the works were started. Last summer all work was done on open platform, and the material was piled in heaps in the open air. My visit to the island on the third instant seemed to have a good effect, for sheds have been erected in which to store the fertilizers, and Mr. Steinfels has followed Mr. Coe's example in regard to stopping work during the summer; he says that his last mixing was done on the tenth instant, and that he does not intend to resume until September; the annexed letter in regard to the matter will explain itself.

At White's offal rendering place, every thing was as clean as possible, but the inevitable nuisance was apparent when the boat arrived with its load of dead animals, etc.; the worst effects are felt while the load is being transferred from the boat to the cooking vats, and every thing should be done to facilitate quick handling of the material as soon as it arrives. The fish factory in connection with it, also Friedlaenders' fish factory, were in about the same condition as Hawkins Bros.' It is to their advantage that all fish scrap shall be well cured, as wet or sour scrap will breed insects, besides being liable to spontaneous combustion if mixed with dry scrap and stored in bulk in a hot place.

In conclusion I would state that the general condition of the island and its industries is far better, from our point of view, *than at any time during last summer*, and if the responsible parties continue to act during the summer in good faith, as they seem to intend doing, there will be no very serious cause for complaint.

Very respectfully, etc.,

ARTHUR HOLLICK,

Inspector.

NEW YORK, *June* 25, 1885.

MR. A. HOLLICK:

DEAR SIR — We have noticed your complaint in the Brooklyn *Union*, which states that the work is done on the platform; such has been stopped since June 10th. We have finished our manufacturing of fertilizer for this summer, and have it all ready in sheds for shipment to our trade. You will find every thing to your entire satisfaction, and we try to have every thing clean and nice.

Yours very respectfully,
B. STEINFELS,
Manager.
Per E.

BROOKLYN, *August* 14, 1885.

DR. ALFRED L. CARROLL, *Secretary State Board of Health:*

DEAR SIR — Some weeks ago I had the honor to submit to you a preliminary report upon the nuisances created by certain factories, situated on Newtown creek. In that report I stated that I believed the odors came from the bone-burning establishments of Mr. C. Meyer, Jr., and Messrs. Moller & Co. Further examination and repeated inspections have confirmed that opinion. The owners of these factories had made an attempt to destroy the gases from their retorts, in which the bones are charred, by conducting them into the main chimney; this was soon demonstrated to be ineffectual, as the gases were poured into the chimney ten or twelve feet above the fire-box in both factories. I then requested them to try the method of forcing the gases into the fire direct, by means of a steam aspirator. After considerable delay, owing in part to my absence from the city for a few weeks, my suggestion has been carried out, with the effect, it is hoped, of entirely destroying the odors heretofore complained of.

Another cause of considerable odor has also been remedied, viz.: the practice of allowing the fresh bones, after being boiled to remove the fat, to lie in a pile for weeks at a time. These piles, at the time of my first visit, were very offensive, and were found in large quantity. This practice has been stopped and the bones are now separated from the meat at once, and worked up as soon as they can be dried sufficiently. With these improvements, the odor has been reduced to the minimum, and I hope will give no further trouble.

The results attained have been communicated to the citizens signing the complaint, through Dr. Walter B. Chase, with a request for a report from them to me, in case of further trouble from this source.

I wish to express my thanks to the committee of the Newtown board of health, for their co-operation and determination to do what lies in their power to abate these nuisances.

I shall continue to visit the various establishments in that neighborhood from time to time, and in this way we may be able to keep these odors in subjection.

Very respectfully submitted,
E. H. BARTLEY, M. D.,
Inspector State Board of Health of New York.

FURTHER INSPECTIONS, REPORTS AND RECOMMENDATIONS.

The committee on effluvium nuisances, after examination of the report of Mr. Arthur Hollick, inspector for the State Board of Health, concur in his recommendations. The report carefully sets forth the grievances complained of, and the causes of the offenses. As these causes can be promptly removed it is the duty of the committee to urge and insist that the proprietors, Messrs. J. & C. Moller, at once proceed to change the methods producing the nuisance set forth in the petition placed before them and fully pointed out by Inspector Hollick. These remedies are both simple and inexpensive, and once made and maintained, cannot fail to secure the improvements asked for.

ERASTUS BROOKS, *Chairman.*

STATEN ISLAND, *December* 28, 1885.

STATE BOARD OF HEALTH OF NEW YORK,
NEW BRIGHTON, N. Y., *Sept.* 28, 1885.

HON. ERASTUS BROOKS, *Commissioner N. Y. State Board of Health:*

SIR — The following is a brief report upon Barren Island and the condition of its industries during the past summer:

Inspections were begun on July 1, and were continued twice or three times a week, until September 21.

The agreement made by Mr. E. Frank Coe, to cease mixing fertilizers during the summer, was continued in good faith between the above dates, and I am happy to add that the good example was followed this year by his neighbor, Mr. Steinfels. By reference to my report of October 31, 1884, it will be seen that the establishment of Mr. Steinfels was formerly a source of great annoyance, and the improvement is a gratifying sign of the desire on the part of the manufacturers to do what they can to mitigate the evils incident to their works. Mr. Steinfels has also placed all his stock under cover, which is another decided improvement over the old method of allowing it to remain exposed to the elements.

There has been no change in the fish factories, the work being done in the same manner as before. But very little nuisance is occasioned by them, especially if the weather is hot and dry so that the fish scrap can be quickly cured. Wet weather delays the work and stock is liable to accumulate and become sour. There is yet one establishment that is capable of considerable improvement, namely, White's. The arrangements for handling the offal as it arrives, and its subsequent treatment, are admirable, but no adequate provision has been made for the storage of the material after treatment. Large heaps of partly liquid and decaying scrap were lying in sheds, and other offal was piled on the open ground outside. Some means should be provided for drying all the scrap before storing, and no offensive matter should be retained for any length of time without proper disinfecting, deodorizing and covering. If this establishment could be improved as much as the others have been I think that we could expect but very little more of Barren Island. The constant supervision has had a very appreciable effect in the mitigation of the nuisance from year to year, and a visitor would hardly recognize the island to-day as the same place of five years ago. The manufacturers are all very anxious to obtain the good-will and opinion of the public, and as a rule will cheerfully act up to any suggestion made.

Mr. Coe commenced mixing on the 22d inst., but White and Steinfels say that they will not begin until the fish season is over — about the last of October.

Respectfully submitted,

ARTHUR HOLLICK,
Inspector.

NEW BRIGHTON, *December* 26, 1885.

HON. ERASTUS BROOKS, *Chairman Committee on Effluvium Nuisances :*

SIR — According to instructions received from you December 22, 1885, I have this day made an inspection of the factories and locality near the head of Newtown creek, to which the annexed report of Dr. Bartley refers.

From my inspections during the summer of 1884, and also from Dr. Bartley's report, I was pretty sure of the source of the greatest nuisance, and to-day's investigation has satisfied me beyond any doubt. The most far-reaching and penetrating odor is from the distillation of bones in the manufacture of bone black. There are three factories engaged in this industry, all of which have been reported upon and described in my previous reports. They are: Preston Fertilizer Company, Blissville; J. & C. Moller & Company, and C. Meyer, Furman's Island. The first mentioned may be considered as of no consequence, for the reason that they distill the bones in iron pots exposed directly to the fire, and nearly all the products of distillation, except at the commencement of the firing, are burnt. Whatever gaseous products escape are conducted into a tall chimney and carried into the higher strata of the atmosphere. Mr. Rowley, the superintendent, informed me to-day that they were considering the advisability of putting in retorts, so that the ammonia could be condensed and saved. I strongly urged him not to do so, as more or less nuisance would be sure to occur.

At the establishment of C. Meyer the bones are distilled in vertical retorts, and the products of distillation, consisting of ammonia and other gases and tar, are condensed and utilized. It is in the manipulation of these by-products that most of the nuisance occurs. Mr. Meyer has invented a method of burning the tar in the fires by means of a steam jet, making a fine spray of the material, which he claims to effect a saving of $1,000 per annum in fuel. And this product was formerly sold at a nominal price to any one who would take it away, or else it was carted out to some vacant land and burned when it could not otherwise be disposed of. The ammoniacal gases are treated with sulphuric acid, in order to form sulphate of ammonia.

The gases remaining after this operation are very pungent and characteristic in odor, and great care should be taken to properly consume them.

Mr. Meyer's former method was to conduct them into the chimney *above* the fire. This merely effected their distribution into the atmosphere from the chimney, and was of but limited value, as the chimney is low. The present method employed is to connect immediately into the fire, thus insuring the combustion of the gas. I understand that this improvement was made upon Dr. Bartley's suggestion, although I was informed about a year ago that it would not do, on account of the danger of a back draught causing an explosion. With proper attention to details, such as caulking all joints in the pipes thoroughly, fitting all covers and connections tightly, working the steam exhausts with care, etc., I am of the opinion that this establishment will be of but little nuisance except to its immediate surroundings. Mr. Meyer has always been ready to act upon any suggestion made to him, especially as he admits that every improvement, designed for the abatement of the nuisance, has paid financially.

The establishment of J. & C. Moller has not been managed with the intelligence that has characterized his neighbors. His method is essentially the same, consisting of distillation in retorts. The entire plant was rebuilt two years ago, but has been more or less a disappointment ever since. The method of using the tar is clumsy, being mixed with fine coal for the fires, or else removed from the premises in the most available way. The ammoniacal gases are treated as formerly described, but the residual gases are not properly consumed, and there is no doubt that most of the nuisance complained of is directly attributable to their escape. The conducting pipe is only made of galvanized iron, which soon corrodes and becomes leaky, requiring to be constantly renewed. It is connected in the back of the boiler fire, where the heat is insufficient to consume the gases. This fire is too great a distance from the ammonia vats to secure proper draught and exhaust. The ammonia vat or "saturator" and the pans are not properly covered. I suggested the following improvements, which Mr. Moller promised to make: First, to dispose of the tar in a manner similar to Mr. Meyer's;

second, to cover the "saturator" and pans with air-tight covers; third, to connect these by means of a cast-iron pipe, securely caulked, with the retort fire, at a point either immediately over the hottest part of the fire or else under the grate bars. These improvements I consider as absolutely requisite in order to effect an abatement of the nuisance.

I have so frequently referred, in my former reports, to the condition of the creek itself, that it seems like mere reiteration to say that the only permanent improvement will be to bulk-head and dredge throughout its entire length, so that there shall be no flats exposed at low tide. It is beyond hope that the water will ever be undefiled while it is bordered by such thickly-settled communities as, Brooklyn and Long Island City. If the proposed new sewer for Brooklyn is carried out successfully, however, it will undoubtedly result in a vast improvement to the creek.

Respectfully submitted,

ARTHUR HOLLICK,

Inspector.

LEGAL ASPECT OF THE CASE.

STATE OF NEW YORK:

OFFICE OF THE ATTORNEY-GENERAL,
ALBANY, *December* 14, 1885.

Dr. ALFRED LUDLOW CARROLL, *Secretary State Board of Health:*

DEAR SIR — The communication addressed to you from E. H. Bartley, M. D., inspector, and by you referred to this office, has been duly considered by me.

Dr. Bartley's letter contains statements which are too vague from which to determine definitely that an actual nuisance exists which is detrimental or dangerous to health.

Providing, however, there exists a nuisance which is actually detrimental to public health in the locality designated and of the character specified, which nuisance is maintained by an individual or private corporation, the Board of Health has power to order its abatement in the manner prescribed by chapter 270, Laws 1885.

Very respectfully,

Your obedient servant,

D. O'BRIEN,

Attorney-General.

BROOKLYN, *October* 20, 1885.

Dr. ALFRED L. CARROLL, *Secretary of State Board of Health:*

DEAR SIR — I beg leave to submit the following statements in addition to my former report concerning the nuisances situated along and arising from Newtown creek. In my former report I expressed the hope that certain improvements made at my suggestion by two of the principal offenders would greatly improve, if not entirely correct, the trouble. These changes consisted in conducting the residual gases from the retorts in which the bones are distilled after removing the tar and ammonia directly into the fire of the furnace and thus consume them. This did greatly improve matters, until one of the firms referred to, Moller & Co., found that this method cooled their fire too much, and made still another change. They took the gases to the furnace under their boilers, and forced them in entirely behind the fire where they are not consumed. Complaints soon began to come in until they are now of frequent occurrence. I have expressed my objections to the firm, and to the mechanic who put in the apparatus. This latter gentleman admits the inefficiency of the method as now arranged. As at present conducted this one factory, if not also Mr. Myer's, is, in my opinion, a *public nuisance* within the meaning of section 385 of the Penal Code of this State. Whether this kind of a business can be conducted in the vicinity of a large city without becoming a nuisance admits of considerable doubt. As the city of Brooklyn extends its residences toward this part of the creek, the time must soon come, if it has not already, when such a stench as now comes from these works cannot be tolerated.

Next in importance to the noisome odors emanating from these bone-burning establishments I would mention the pollution of the waters of the creek itself. Without attempting to mention all the sources of the pollution of this stream, I will mention the two principal ones. These are the sewage of a portion of the city of Brooklyn, and more or less refuse, tar, oil, etc., from the oil refineries along its banks. I have no positive evidence that sludge acid is poured into it, but at low tide a black, tarry, offensive deposit may be seen along its banks which is extremely suggestive of this origin. (See § 390, Penal Code.) The surface of the water is usually seen to be partially covered with a thin film of oil, sufficient to give the odor to the whole stream.

When there is added to this a large stream of city sewage, and more or less refuse from smaller factories, fertilizer works and fat-rendering establishments, the water becomes extremely dirty and offensive. The upper portion of stream flows through a large swamp covering many acres, much of which is under water at high tide, and bare at low tide. It is evident that the great area of sewage-soaked and polluted soil thus exposed to the air must give off a great deal of offensive odor. The air coming from these flats on a foggy or damp night with a gentle breeze is, to many, almost unbearable. Complaints have repeatedly been made that in certain regions not far removed from the creek the paint upon the houses becomes blackened by the same odorous gases. I have confirmed the fact that the houses are blackened by some atmospheric agency. I am of the opinion that a large part of this effect is due to the sulphuretted hydrogen and ammonium sulph-hydrate brought from these swamps and their polluted waters.

Further studies upon this point are in progress. The city of Brooklyn is at present constructing a sewer which, I am informed, is intended to carry the sewage of that part of the city in another direction, and thus prevent this very important pollution of the creek.

This improvement is very much needed, and little can be done toward the complete abolition of these odors until it is completed. Besides the causes already mentioned, we may also notice the five or six fat-rendering establishments, the two manufactories of fertilizers, and a glue factory, each of which adds something to the common stench. I have no proof, however, that the odors from these premises reach far enough to constitute a *public nuisance.* I doubt if any thing can be done at present with private corporations for polluting the creek waters, except in the case of the oil refineries, which are bound by a contract, so long as the city of Brooklyn is the chief offender.

As frequent complaints reach me concerning these nuisances, I would respectfully ask for your opinion as to what measures should be taken for their suppression.

Very respectfully,

E. H. BARTLEY, M. D.,

Inspector.

SCHOOL HYGIENE.

LIST OF ILLUSTRATIONS.

1 Converging ventilating flues, hooded, etc........................
2 Hooded exit shafts (direct to, and above, roof) ....
3 Stove and jacket, showing the fresh-air shaft-areas.............
4 Exits for foul air by stove-pipes and their jackets ....
5 Exits for foul air by stove-pipes and their jackets...............
6 Exits for foul air by stove-pipes and their jackets ....
7 Fresh-air inlets ....
8 Fresh-air inlets and ceiling exit...............................
9 and 10 Rooms for imperceptible ventilation . ...
11 A specimen of unventilated, overcrowded and poorly lighted school-rooms ....
12 The Yonkers examples of ventilation, etc.........................
13 and 14 Special examples in the city of Troy ....
15 and 16 Examples of ventilation and lighting in the Court street and in the Francis street schools, Utica.................. ....
17 Example in Rochester, school No. 13 ....
18 and 19 Other examples in Rochester..............................
20 and 21 Faultiness in sliding glass doors, illustrated ....
22 and 23 Illustrations of the treatment of windows in reference to suitable lighting ....
24 Illustrations of lighting in the Hoosick Falls public schools......
25 Studies in the lighting and ventilation of public school No. 10, Rochester ....
26 Illustration of four school rooms on one floor, arranged in the four corners, the corridors and accessory rooms being all central....
27, 28, 29 and 30 Black-boards and the lighting of class-rooms.......
31 and 32 Examples in the Union School of Schenectady. ....
33, 34 and 35 Examples in lighting and ventilation in the Brockport Normal School. ....
36, 37, 38 and 39 Examples of faulty lighting in certain public schools in Rochester, Troy and Brockport...... . ...
40 Example in one of the Albany Public Schools...................

REPORT UPON SCHOOL HYGIENE.

By D. F. Lincoln, M. D.

Note. — During the course of the inspections which were made under the direction of the State Board of Health in 1881, the writer of these pages had opportunity to observe the actual condition of the school buildings in many widely distant places in the State of New York. The present paper is based chiefly upon these observations.

The first edition dealt chiefly with questions relating to the construction of school buildings, as ventilation, heating, lighting and desks. The present edition is essentially the same in these points, but has in addition some remarks and illustrations upon drainage, and a plan or two which may serve as models for building school-houses, or may at least offer suggestions and aids to those intending to build.

Besides these points something is also said in regard to the prevention of contagious diseases, and to the general question of the effect of school life and work upon health.

The writer's thanks are due to those teachers and guardians of schools who have sympathized with his work, and to whom he has tried to make it of practical use.

Introductory.

A human being, considered by itself, is a unit, and has value as such. In combination with others, it forms a part of a compound unit, a larger being, different from any of the individuals composing it, and endowed with special productive or destructive powers. But every thing has its price, and the gain is associated with a loss. The man who forms part of an association gives up some of his own individual rights. Tied to a machine, he becomes a part of it. Does the child lose any thing by being incorporated in the system of common schools? Doubtless he does.

A child who enters a public school is conscious of a change in his surroundings of which he cannot give an account, but which constitutes for him a new world. He has ceased to be an individual, and has become a fractional part of a machine. He has been well understood by persons who have watched him from his birth, and who are deeply interested in his person. He is now transferred to the care of strangers, who meet with him only five hours in the day, and whose interest in him is restricted by the fact that he forms but a fraction — say from one and one-tenth to two and one-half per cent — of the total group of children that is intrusted to the care of a teacher. He is held by the teacher a few months, and then passed on to another, again as a fraction, not as an integer.* Does he not lose much, as well as gain something, in this system?

As regards his health, he loses that defense which the sympathy of the community always extends to an individual who is suffering conspicuously. Taken generally, all children in school are suffering some discomfort. Average the discomfort among ten thousand, and it may not be very great for each one. But a class of fifty children is not made up of fifty *averages*. Let us imagine such a class, containing among its members representatives of the common affections of school life, such affections and complaints as the writer of these lines has frequently had to encounter among the children in public schools. Individual number one has a ravenous appetite, sleeps soundly, works little, plays much. Number two is a little pale, eats less in term-time but recovers his appetite each vacation. Number three is detained at home occasionally for headaches, caused by poisonous carbonic oxide and carbonic acid gas, from the stove, or by the foul air of the crowd. Number four mutters arithmetic in his sleep, especially just before the annual examinations for promotion. Number five occasionally sits in a draught of cold air, and catches cold; while his next companion has a tendency to catarrh of the ear, and is gradually becoming deaf under the discipline of a school which confines him to one spot. Number nine is a child whose parents are near-sighted; he sits in a corner of a dark room, where light is insufficient for writing in the winter season; he is allowed to sit in an attitude that brings his eyes within three inches of the book, and he is placed in a desk which is so high and ill-adapted as to prevent him from holding the object at a proper distance. He is complained of as dull, listless, inattentive to what is written on the board, when in reality he is shut in upon himself by the fact of near-sightedness, which condition is aggravated every day by the way his education is carried on. Number twenty has just recovered from the measles, or perhaps we should rather say, is convalescing — for she is a little pale and weak, her eyes are not strong, and her eager nervousness hints at the reason for her premature return to study; she wants to be present at an examination, on which her "promotion" will depend.

Numbers thirty and forty-one wear glasses; one pair has been placed on the child's eyes by the most accomplished medical skill, for the relief of far-sight; the other has been picked up from a tramping pedler.

Now the classes are ordered to write. They begin in good form; but in three minutes' time their heads are bent within an average distance of three inches from the copy-books; and a distorted position of the body is inevitably produced by the faulty shape of the desks. These scholars, the teacher says, write about twenty minutes a day, and that cannot be long enough to inflict any permanent injury. But in another room they are adopting the "Quincy method," and the scholars write a good deal more; and in the upper classes they write long translations and compositions, and copy out lectures.

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* It would be very unjust to many faithful teachers to present this as the universal fact. There are many exceptions, local and personal; but the general tendency remains as stated.

In another room may be seen a class of boys and girls of about fifteen or sixteen. They pass in file, and there is opportunity for seeing that not one in ten of the girls has an erect figure; many stoop painfully, and among forty whom the eye reaches, four or five appear to be deformed with lateral curvature of the spine. Here is a tall young woman who sits, like others, with the upper part of her body across the desk in an attitude of fatigue. She is an overworked person, and the school is not wholly to blame for that. But the school may be responsible for the ill-shape of the back of her chair, which gives her no real support in sitting, and compels her to lean forward instead to relieve a pain in her back.

Such facts as these will constantly meet the eye of one who visits our common schools and studies the health of their inmates. And is there not an inference from such facts? Are they not of that class which imply a duty and a responsibility? Human life is the best of human possessions; and the best part of life is the hope that we are leaving behind us those who will be more able and worthy to enjoy it than we have been. These successors of ours are the children. Can any thing touch us more closely than the thought that there is a group of influences, manifold and wide-spread, which are constantly acting to lessen the worth of their young life?

VENTILATION AND HEATING.

"How much?" and "How?" are the two great questions in ventilation.

Ventilation implies getting bad air out, and good air in. The amount of air discharged from the lungs is small. If we could catch it at once and make it pass out of doors, very little ventilation would be needed. But it is found that the breath mingles rapidly with the air in the room; and the only thing to do is to change the air of the entire room frequently. The change should be so rapid, that a person coming from the fresh air shall not notice closeness, or a close smell. In order to produce this result, in a house permanently dwelt in, sixty cubic feet of fresh air should be supplied per minute, for each occupant. In a house occupied for short times and then aired out by sweeping draughts, like a school-house, half this amount is desirable — that is, thirty cubic feet per minute, or half a foot per second.*

A room measuring 32 feet long, 25 feet wide, and 12½ feet high, contains 10,000 cubic feet of air, which allows 200 cubic feet per scholar to a class of 50 scholars. If one person is supposed to require 30 feet of fresh air per minute, then each one's allowance will last a little less than seven (7) minutes. Hence, the requirement is that in such a room the air should be changed by the ventilators at least eight (8) times an hour! And not only this, but there must be a large supplementary change of air by means of opened windows, from time to time.

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* The amount of fresh air required is the amount which is needed in order to dilute the impure air to a certain standard of relative purity. All good air contains a small proportion (4-10000) of carbonic acid gas; when human breath is added, the amount is increased. It is found from experience that when this increase brings the total amount to beyond 6-10000, the air begins to smell close. A person may, therefore, add two parts of carbonic acid to 10,000 of air before it becomes objectionable. If he should breathe out two feet of the poisonous gas in an hour he would affect 10,000 feet of air to this extent; but as the real amount expired in an hour is about one-third of two feet, he uses and renders unfit for use one-third of 10,000 feet, or (more exactly) 3.500 cubic feet of fresh air per hour.

This requirement will seem startling to those who hear it made for the first time, but it is the acknowledged standard of science at the present day. We should not depend, in this matter, upon statements made by even good authorities, a few years ago; the standard of purity as set by Parkes and De Chamont is the one to follow. There are very few buildings in which it has been attained; but every step taken, ever increasing the purity of the air of a school-room, is followed by a gain in health and comfort, and no one should feel discouraged from attempting improvement, even upon a small scale.

If we wish to ascertain by calculation how much the ventilating arrangements of a given room are actually supplying, we may limit the question at first to the point, how much air is *drawn out* or makes exit in each minute or second of time; since, for each cubic foot of air taken out, another foot must come in. It will be right to ask afterward whence the new supply comes, and what its degree of purity is. But in our climate rooms cannot be ventilated without flues; and if the flues are acting well all the air that leaves the room will leave through them. If the flues are weak and insufficient, it will be hard to make an estimate of the amount of ventilation, but it will usually be small.

CONSTRUCTION OF FLUES.

Few people are aware how small a quantity of air is actually drawn out of apartments by ordinary flues for ventilation. By "ordinary" I mean the old-fashioned sort, of the size of one or two bricks, 4x8 inches or something about that, with a close grating called a register to obstruct the current at the bottom, a sharp angle at the foot, the inside roughened by protruding mortar and with only an accidental opportunity of getting warmed by contact with a smoke-stack. You stand in front of it with a light pocket handkerchief; the cloth is gently drawn toward the opening; it deviates a couple of inches; you say "it draws," and are satisfied. "The thing is working." Probably, in such a case, the rate at which the current moves is something like a foot per second. The flue is drawing out a quarter or a half of a cubic foot of air per second — enough, perhaps, for *one person's* requirements. A large school-room may often be seen provided with half a dozen or more of just such ventilating flues which are considered to be "the correct thing," and are pointed out to the visitor as the evidence of good ventilation in the house. Evidently the question of "How much?" is of leading importance in some other matters than those of finance and trade.

It is strongly to be recommended that school authorities should take steps for ascertaining the real working capacity of the flues in the school-houses, for the degree of deficiency can never be known in any other way. The anemometer will give a pretty faithful statement of the current actually passing the flues. Analysis for carbonic acid in the air of the room will give an excellent test. Nor ought we to pass without mention the useful but too often uneducated sense of smell; it furnishes data which make the foundation of all our mathematical calculations, and is by itself a faithful guide for a short time.

A ventilating flue must draw, or it is worthless. This quality, which forms its sole merit, is dependent on several points.

1. It should be as straight as possible from beginning to end. Curves and angles are very great obstructions.

2. It should not, as a rule, be horizontal, or descending in any part. There are special exceptions to be noted hereafter.

3. It should be continuous from the beginning to where it discharges out of doors. A flue that ends in an attic has less carrying force than one that goes up through the roof. The air comes up with a rush, and is dispersed in the air of the attic; the rush, the momentum, which it brings with it is lost in the space. True, the air will get out by a ventilator at the ridge-pole, if there is one, but the conditions for successful working are best attained by a continuous column. A tight box lined with tin may properly be used to collect the flues and discharge their collective contents by an opening, as in Fig. 1.

4. It should be smooth internally. A tin pipe is as good as any, and has the advantage of not parting with heat so quickly as dark or slightly roughened metals will. If a brick flue is used it should be larger than the dimensions named above, and should be plastered smooth inside. The hollow spaces in walls should not be relied on to do the work of flues. The width is very small, and the friction against the bricks or lathing is enormous.

5. It should be so protected as to lose no heat. A tin flue passing through a cold entry should be boxed with wood. It should not have a very great distance to traverse in the open air, if of metal. There is, therefore, a certain advantage in compelling tubes to converge inside of the attic, as in Fig. 1, instead of passing up straight through the roof, as in Fig. 2.

6. It should be so protected that the rain will not beat in or the wind blow down. Certain caps will accomplish this object satisfactorily.

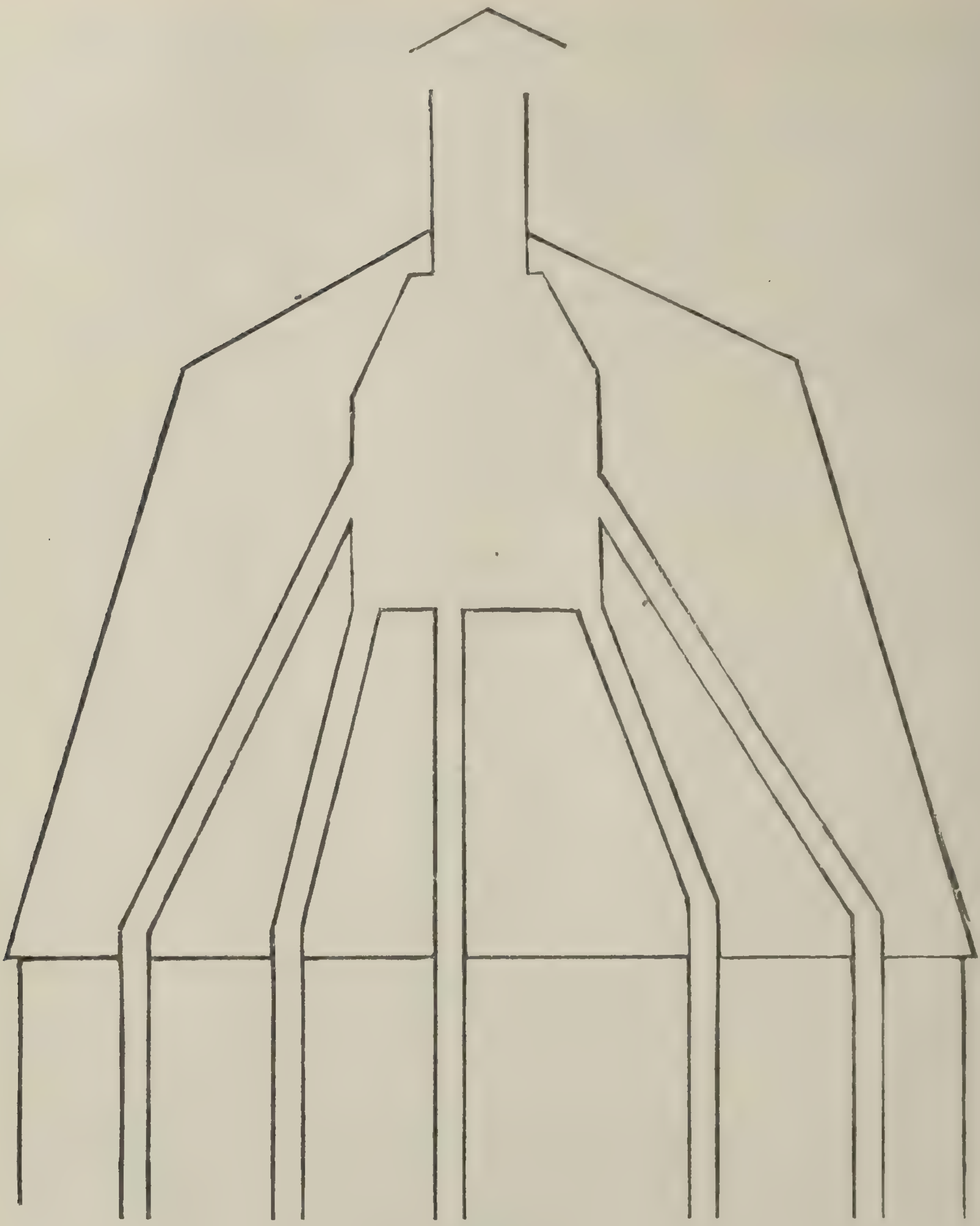

FIG. 1.

There are other caps which increase the upward draught when the wind is blowing upon them, but their action is uncertain, and they may sometimes check the upward current instead of assisting it. The outlet should not be a narrow one, barely equalling the capacity of the flue, and compelling the current to twist and turn in making its exit.

It will be useless to rely upon the "extractive power" which some ventilator caps are said to possess. This power, if it exists, is largely dependent on the force of the wind, and must therefore be reduced to nothing at times.

7. The flue must be devoted to the uses of a single room. If it opens to rooms on successive stories it often serves as a passage from one story to the next above, especially when the flue is not warmed. The heated flue, on the other hand, when drawing from different stories at once, has a much less powerful action upon the upper story.

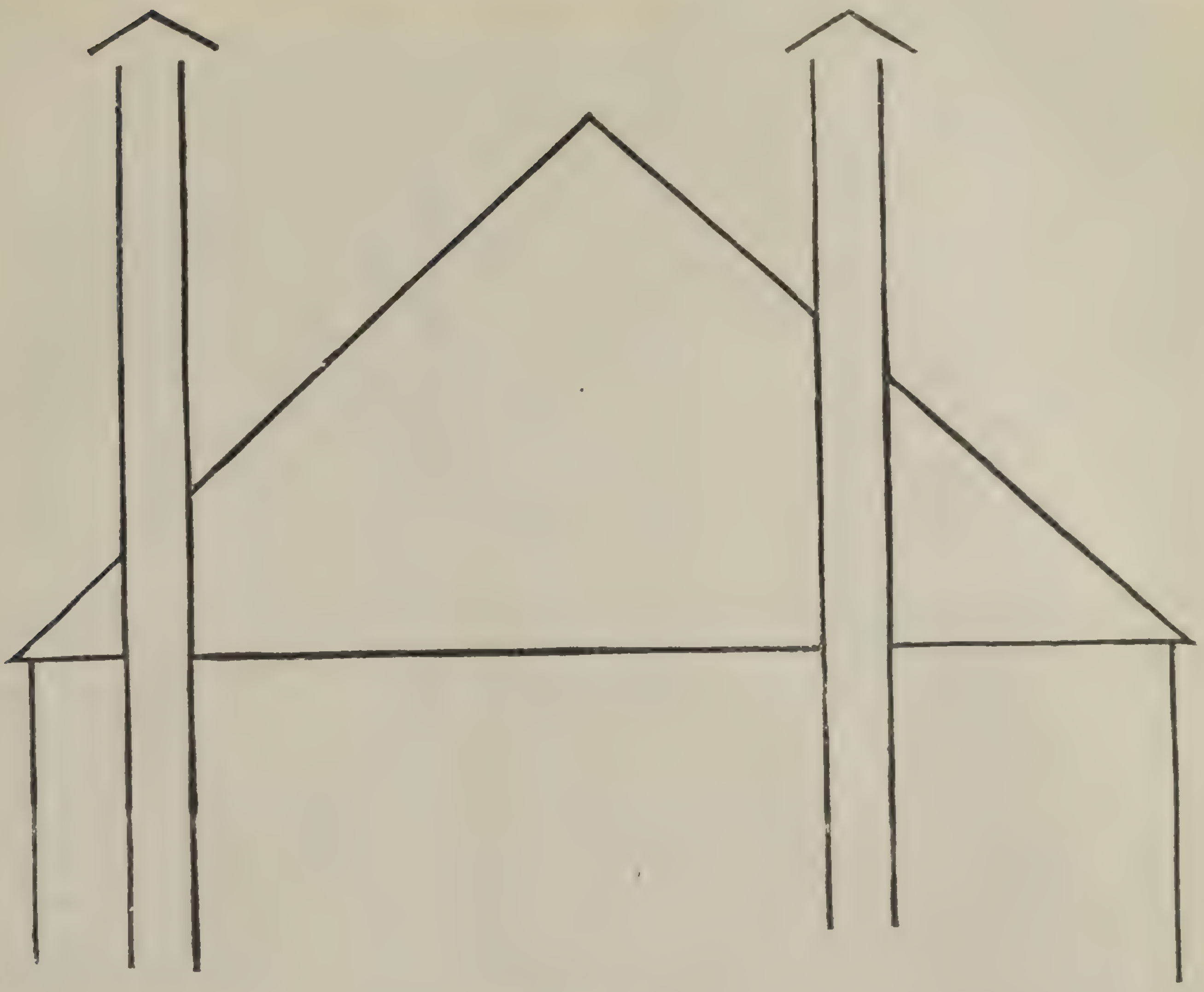

FIG. 2

8. The flue should be warm; at least it must be as warm or warmer than the outer air, or else the current will be inverted.

Flues ought not to be placed in *outer* walls. Much heat is lost and the opportunity for heating by contact with the chimney is sometimes omitted. An air-space is sometimes employed as a defense. When, for instance, a triangular brick flue is placed in the corner of a room (which is a good arrangement for saving space), the wall should be double on the outside.

WARMING OF FLUES.

The subject of applying warmth to flues is a somewhat extensive one, but a few methods ought to be mentioned.

(*a*) A brick triple-shaft with the central flue devoted to the smoke from the furnace and the two side-flues for ventilators.

(*b*) A brick-flue heated by the metal smoke-flue from stove or furnace (twelve-inch cast iron pipe).

(*c*) Flues of any kind containing steam pipes or coils, specially intended for heating the flues. This is a comparatively expensive plan, both in first cost and in running. The steam thus used costs extra, whereas in plans *a*, *b*, and *f*, the heat employed is that which would otherwise be wasted.

(*d*) Steam-coils placed in the chest at ridge-pole (fig. 1). This is not an economical plan to apply heat; it affects only the upper few feet of the column of air. Still, it may be advisable in some cases.

(*e*) Gas-jets burning behind a pane of glass, which is let into a tin pipe. This is efficient, yet inexpensive in construction. The efficiency is increased by Gouge's methods.

(*f*) In a variety of ways the stove or stove pipe can be made useful to expel air from the room. The following paragraphs describe a few such plans:

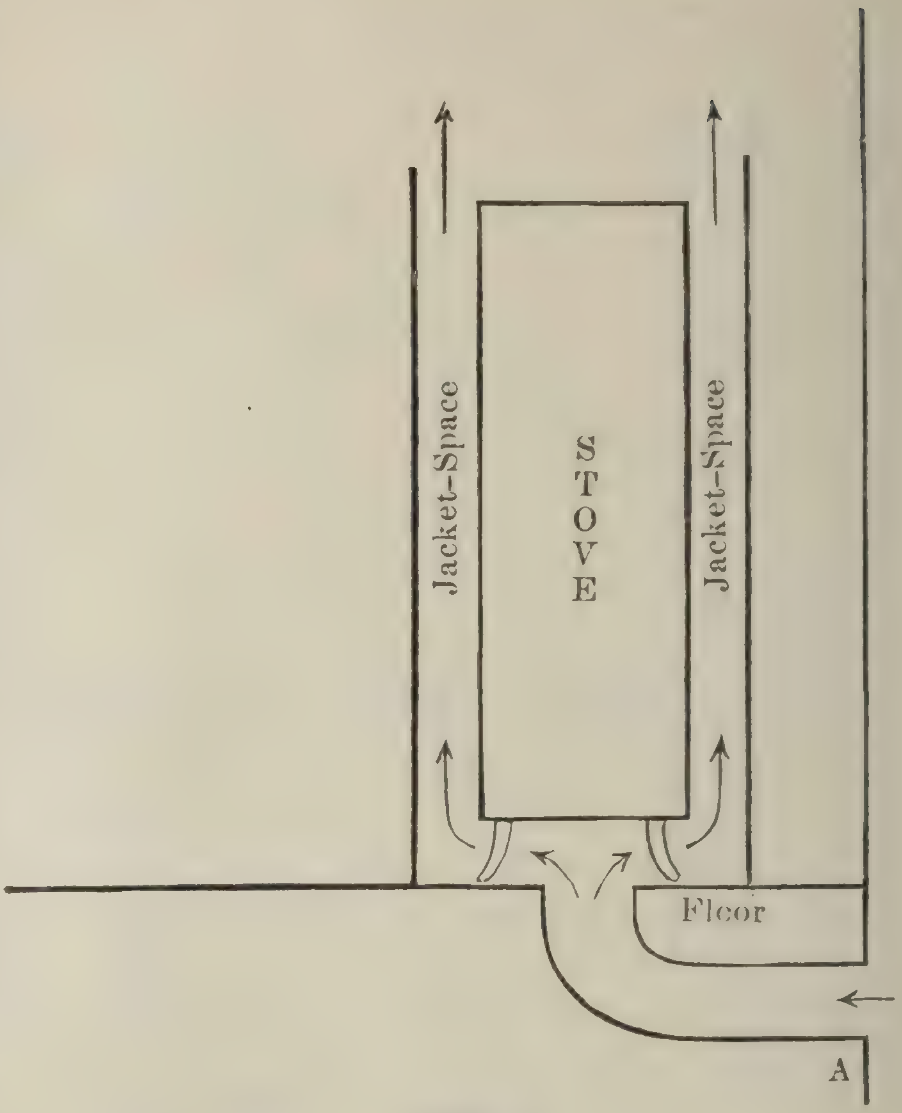

FIG. 3.

STOVE VENTILATION.

The "jacket" or metal screen for a stove, can seldom be dispensed with in a school-room. Its first use is to protect from excessive heat, but it may also be used as an aid to ventilation. Fig. 3 shows how this is done. A metal-cylinder, considerably wider than the stove, is placed around the latter, and its edge is fastened to the floor. A good sized pipe is then carried through the floor, under the stove, and led through the house-wall at A. Guard the inlet with a screen of wire at A, and a considerable supply of pure warmed air is drawn into the room. This is one of the cheapest and best devices for warming and ventilating. Some prefer to extend the jacket around only a part of the stove and leave the door uncovered; or the jacket may stop at the bottom of the stove and be made fast to the latter at that point. The arrangement is similar in effect to a "portable furnace," such as is usually placed in a cellar or a basement hall.

In *figure* 4 a stove is represented standing close to an open window. The movable semi-cylinder of metal, commonly used for a screen, has been so placed as to enclose the stove on all sides except that toward the windows. Cold air may then be freely admitted; it is quickly warmed by contact with the stove and is thrown upward with the general current.

Figure 5 shows air brought in so as to be warmed by contact with a stove pipe. The inlet flue is enlarged and runs up with the stove pipe, like a jacket, for some distance.

Figure 6 shows how a stove pipe may assist in removing injurious air. The diagram represents a two-story house with a chimney which comes down to only a very short distance from the roof. The opening into the chimney for the stove pipe is enlarged so as to receive a much larger pipe, which encircles the stove pipe like a jacket. This jacket may stop short at A, or may be carried through the floor to B in the first story. It will secure a draught from either story as may be arranged. The idea of this and the preceding figure is borrowed from an article in the report of the Michigan Board of Health for 1879.

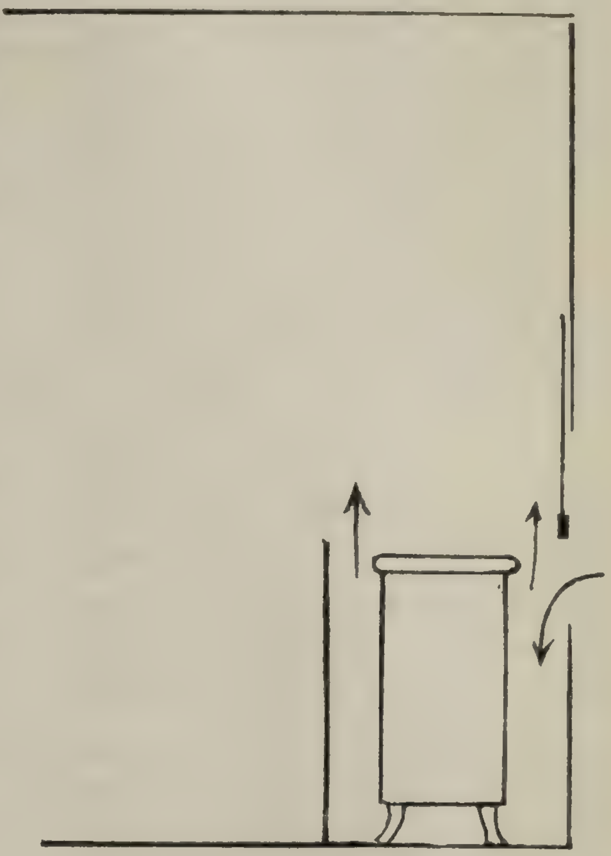

FIG. 4.

A chimney into which a smoke-flue discharges may be opened at any point *below*, and not too near, the point where the smoke enters. Many rooms, for instance, have chimneys which reach to the floor, while the stove pipe enters near the ceiling; such chimneys ought to lend their powers to the task of ventilating the room by an opening near the floor. The latter ought to be closed when the fire is making.

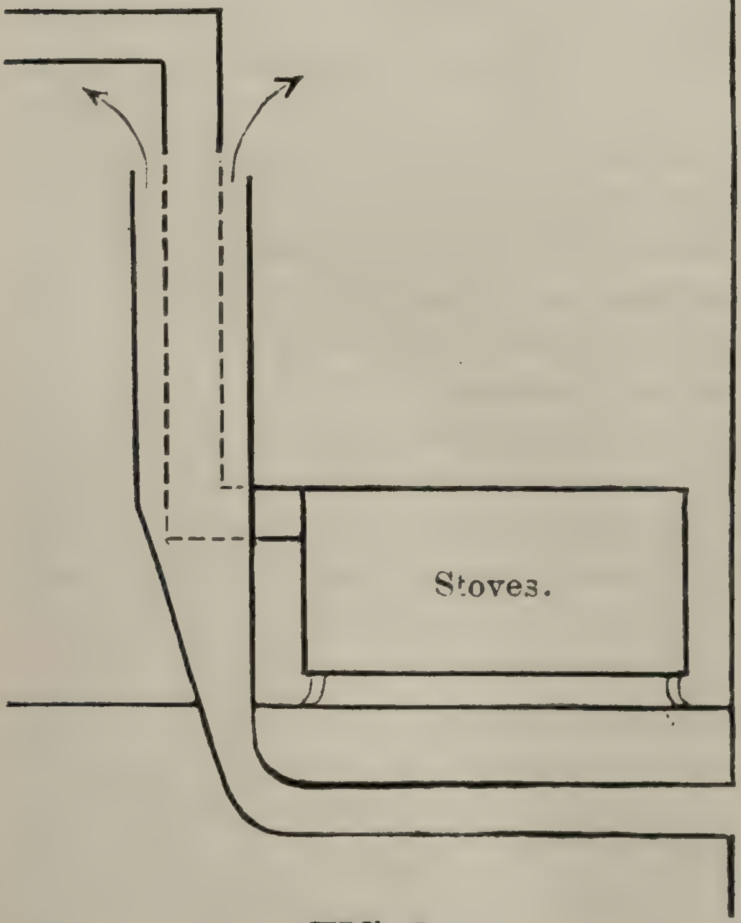

FIG. 5.

The term "aspiration" is applied to the suctional force of heated flues. In large buildings a single shaft is often planned so as to do the whole work; in this case, the room-flues sometimes run in the floors directly to the shaft, while in other buildings all the flues are made to descend to the base of the shaft before entering it. A discussion of this matter on a large scale is beyond the purpose of this paper. Where the number of rooms is great and the exposure to the weather is different in different parts of the building, unequal action is likely to occur.

If the shaft or flue opens into the upper part of a school-room, the air drawn out is several degrees hotter than if it opens near the floor. The draught is therefore more powerful. Still, it is best to draw the air from a point near the floor, the effect of which is to stimulate the circulation of the warm air of the room in a downward direction, thus equalizing the temperature and increasing the value of the heat given out by the stove. No draught will usually be felt from it by a person sitting at the distance of four or five feet. We need not be influenced by any theoretical considerations as to the level where carbonic acid is most abundant — there is no great and constant difference between different levels; but we shall not fail to find sources of impurity of air more frequent at or near the floor than higher up. If gas is burning, the case is different.

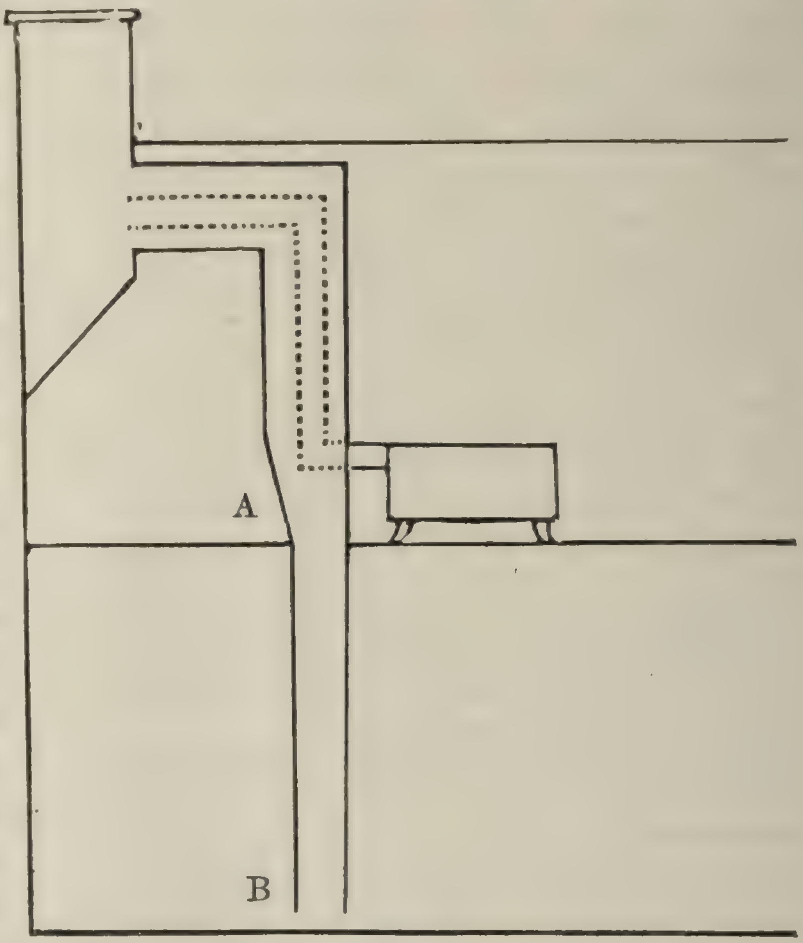

FIG. 6.

As regards a heating apparatus, furnaces in cellars are most manageable when standing directly under the rooms they are to heat, or at the windward corner of the house; in other cases they sometimes play strange tricks, refusing to yield warm air, or drawing it out from the room. A steam apparatus has this advantage, that the heat can be placed just where it is needed. Whenever a supply is wanted in a room, a tin pipe (wood should be avoided as unsafe), can be led down from that point to the cellar, and a steam coil put there, encased in a wooden box lined with tin to save heat, which has a value for stormy weather; but in no case should air be taken from cellars for school consumption — certainly not while the school is in session.

SOURCES OF FRESH AIR.

There is much carelessness about the source of air which is drawn into furnaces for heating, and sent up into rooms. The ground may, it is true, be a pure and inoffensive bit of turf, but that is an unusual condition in a city school yard. Bad air, malarial air, is known to settle upon the ground in many cases. The ground-level is less reached by the renovating breezes than higher levels. Sundry unpleasant surroundings of school-houses are at the ground-level. As a rule, openings for drawing the outer air into the heaters had better be at points above the children's heads, and covered with wire netting.

Something more should be said of the cellar. It cannot be too often repeated, that the purity of cellar air lies at the foundation of the purity of house air. The danger of severe and sudden illness lurks in cellars, as often as in sewers. The common practice in regard to cellars is to bury the drain under its floor — to place water-closets in its darkest corners — to store combustible rubbish in wooden bins (I have seen great heaps of paper scraps) — to pile away old rotten boards and clothes — to hang children's outer garments in it — in short, there are few uses of a menial sort to which it is not put. The cellar is often without a proper floor, often is very dark and close for want of windows, often is darkened by placing the heater-boxes in front of windows.

To these sources of pollution (for darkness is one source) add the fact that in cold weather a powerful outside pressure exists, forcing air into the cellar, and thence into upper parts of the house. It is too much to expect that an average cellar will be so pure, so free from all these objectionable things, that air may safely be taken up from it by furnaces for the consumption of the house.

Let the floor be concreted or asphalted so as to be air and water-tight. Put no drain underneath, unless in trench with a wooden or stone cover. Put *one* large trap outside of the walls for each sewer, ventilate it by an opening just inside the trap, run the soil-pipe up full sized several feet above the roof, and protect it from rain; ventilate the trap under each washstand. Have no water-closets in the cellar; or if they be thought necessary, isolate them in separate chambers of masonry with abundance of light, accessible to the children from the outside only of the house. Give a plenty of windows and good height, and keep the walls whitewashed.

INDIRECT RADIATION.

Heating "by direct radiation" means the use of steam coils placed *in the rooms* to be warmed; it economizes heat but does not assist ventilation. There are some devices for introducing fresh air so that it shall pass over such coils; holes in the wall of the room with valves, etc., but they are ineffective for the most part. The coils should be *in the basement* enclosed in separate boxes, and with separate, abundant air supplies. Such boxes may be made of wood lined with tin, to save waste of heat. They will naturally have a door in the side for inspection of the interior, but that door ought to be kept closed and locked; no *cellar air* should be allowed to enter the receptacle of pure, warmed air for the supply of a school-room.

If a coil were substituted for the stove in figure 3 it would make a good apparatus.

The objection to "direct" heating is the deficiency in the supply of fresh air. The same objection holds good in the case of "hot-air furnaces," if they are driven excessively and deliver a small quantity of overheated air. The latter condition should be rectified by making the furnace and its channels of inlet and delivery *large enough* to give an abundant supply of *warm*, not *hot*, air.

It must be constantly borne in mind, that the scholars are not to be exposed to draughts of cold air when it is possible to avoid them. In every way, we should try to warm the air, even a little, before it enters. The methods shown in figures 3 and 4 illustrate this, but are not in themselves adequate to give a *full* supply of air.

If a room has a strong exit-draught, it is evident that much air must also enter it. It is possible that a school-house may be so built that the former point is attended to, and the latter neglected; there is a good ventilator, but no supply of fresh warmed air. In such a case, it may happen that the school-room will suck in its supply from the adjoining cloak-rooms, halls, passages, water-closets, and even the cellars, with unpleasant results. It is not proper to seek to supply the defect by keeping windows constantly open — or by open transom-sashes; windows cause draughts, and ought not to form an element in our calculation, if we are planning a system of circulation of fresh air. Fresh *warmed* air is wanted.

A point against the direct method of radiation is the difficulty of governing the amount of heat in mild weather. This should be considered, however, as a defect of arrangement. Coils should be in duplex or triplex systems, and it should be easy to shut off steam from one half or two-thirds of the pipes.

AUXILIARY MEANS FOR VENTILATION.

No system of flues, however skillfully and liberally planned, is likely to take the place of windows altogether. This paper has already made the assumption that school-houses require but half the amount of fresh air which is required for permanently occupied houses. What justifies the assumption? and what conditions must be looked to in order to supplement the assumed deficiency? "Thirty cubic feet of fresh air per minute and head" will not keep a closed room fresh for two or three hours of uninterrupted school-work.

There are certain auxiliaries to ventilation that are in the power of the teacher; and there is also something in the original plan of the building which contributes to a free movement of air, or impedes it. We will, therefore, speak of. 1. Airing-out; 2. cleanliness; and 3. floor-plans.

1. Troops on the march are accustomed to halt ten minutes at the end of each hour. A school should also have its halting times (and once in an hour is not too often), when the air may be renewed by a quick and brief opening of the windows, while the pupils go through some light gymnastics. A principal use of the fifteen minutes' recess is to effect this more thoroughly. A complete renewal should be accomplished after each session, and no room allowed to be closed after sweeping until the dust has wholly subsided as far as the sense of smell can judge.

It is no wonder that teachers are glad to get rid of the old-fashioned school recess. Houses are now placed in the midst of thickly-settled towns, where the children, if they are allowed to run in the streets, are in personal danger, and if kept in the yards have hardly elbow-room.

Their shouts annoy the neighbors — though shouting is really one of the best parts of their play. Some teacher has to watch them while in the yard; and this must be, especially for ladies, one of the most difficult and distasteful parts of the teacher's duty. If the rooms are aired out at recess, some of the delicate or lazy, or over-studious, will object to the draught. I know a school where there is but one yard for boys and girls; they have, therefore, a recess at different times for the two sexes, and one-half of the scholars are always left in the rooms, so that no airing out is possible. Still, the uses of recess remain. To provide for the delicate children, or for the case of bad weather, a play-room, warm, airy and light, ought to be provided.

No apparatus that can be named will do so much good at a very small cost as the window-board. By that term I mean a plain piece of board, as long as the window is wide, and from four to eight inches wide. The lower sash is raised, the wood is inserted, and the sash is shut down upon it. The air enters in a thin stratum passing upward between the upper and the lower sash, in a nearly perpendicular direction, without causing perceptible draught.

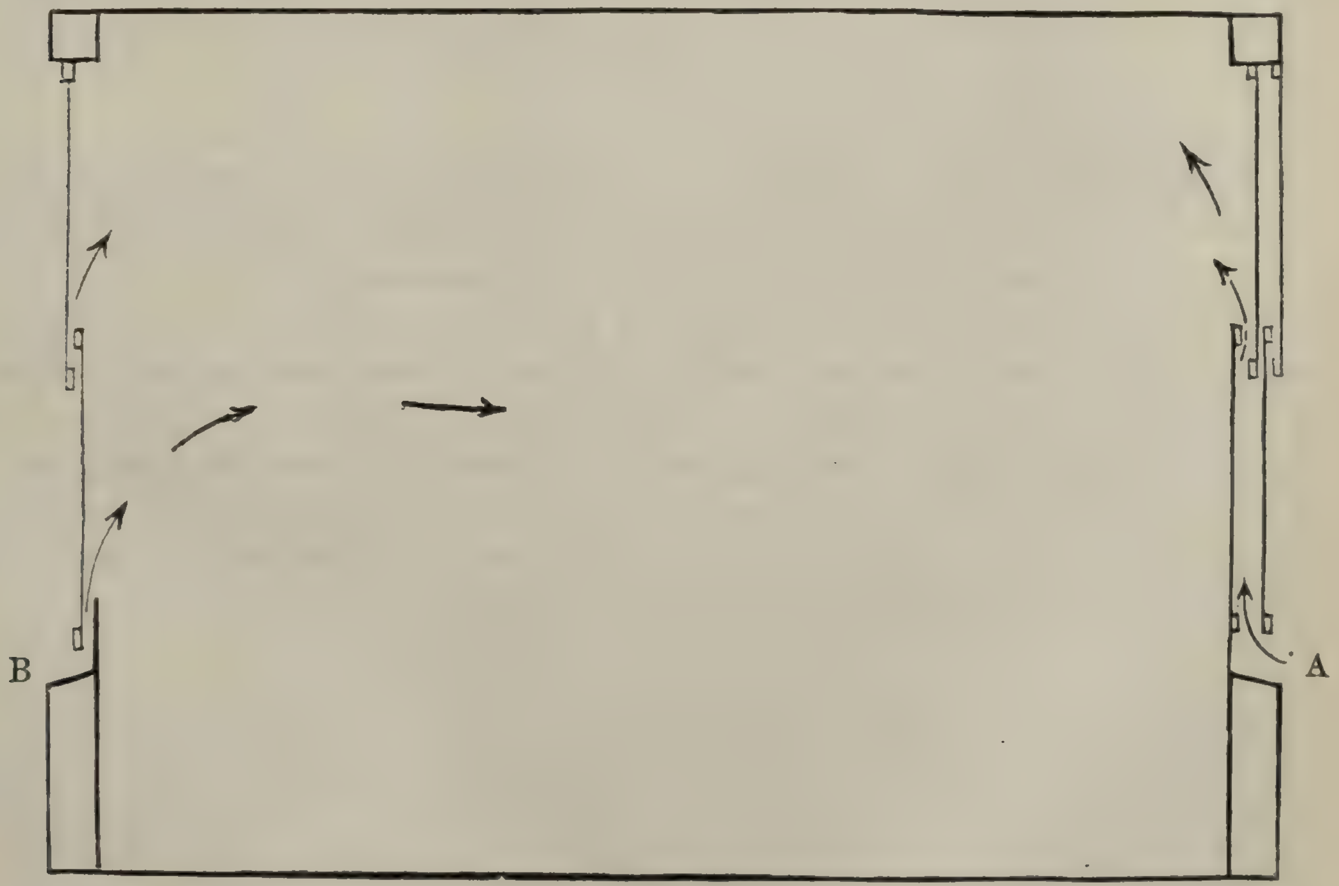

FIG. 7.

The diagram (fig, 7) represents a window provided with the board, and air entering at A. The window is, however, represented as double; this gives great protection from the cold, and also enables the air to enter the room slightly warmed by contact with the lower pane. All four sashes of double windows should be movable.

In many places, teachers have told me that they have found these simple methods of much service. But it must be borne in mind that they may give rise to draughts, which are unpleasant or even injurious to certain scholars. Some are more sensitive than others, and some are subject to chronic catarrhs of the throat or ear-passages, which are very easily aggravated by draughts.

The window-board is sometimes pierced with holes for tin pipes, which are bent upward at right angles. This effects the above-named results at a greater cost.

A kind of mosquito-bar, covered with thin flannel, may be used to sift dust from the air. But dust-sifters are air-stoppers. Such apparatus is not adapted to the case of rooms with many occupants.

CLEANLINESS.

2. There is an invisible something which clings to the substance of wood and plaster, and continues to give out a smell after the air has been renewed. This sort of emanation cannot be conducive to health. It brings startling suggestions of "hospitalism," or hospital smells and infections. Whoever will aid in banishing this smell from schools is a benefactor. Strict cleanliness is the remedy, associated with good ventilation.

It is not superfluous to say that once or twice a year is not often enough to wash the school-room floors! Schools do exist in which the washing is done weekly on Saturday morning, the sweeping daily after sessions, and dusting daily in the morning, everything being finished half an hour before school opens.

A floor might be non-absorbent. Seasoned yellow pine and maple are both good materials; they can (especially maple) be so prepared by oiling as not to need washing, but only the use of a damp cloth.

Dust comes from the mud brought in upon the children's shoes. There ought to be no muddy school yards. The use of mats and scrapers must be provided for and enforced.

Children of the poorer classes come to school with their clothes smelling of the day's cooking, and much else. Teachers and charitable visitors can do much to encourage or compel children to come with clean and decent garments, and clean face, hands and hair.

CLOSETS FOR CLOTHES.

It is not proper to hang overclothes in the rooms where scholars sit. A closed wardrobe or closet in the school-room condenses the effluvia, and concentrates the effect of packing a quantity of moist, reeking rags. The chance of diffusing infection is increased by such contact. A closet should be large enough for each child's clothes to hang without overlapping another's. It should have good light, and free circulation of air, and be well warmed. If the corridors are wide, warmed, airy and light, a portion may be set off by a board partition for the use of each class, the boards to reach six feet in height, and to come within six inches of the floor. If clothes are hung in the basement, care should be taken that the furnace does not send the air of the clothes-room up-stairs.

Walls that can be washed are a desideratum; paint answers the purpose well. Wall paper is so pretty that it is a pity to condemn it; but it is very absorbent, and not allowable under strict sanitary rules where large numbers are congregated.

PLANS OF BUILDING IN REFERENCE TO VENTILATION.

3. In planning a house, it is well to place the windows and doors so that those slight currents which enter by cracks or by partial openings may traverse all parts of the room. We thus call to our aid a correct principle of "natural" ventilation which should not be lost from sight even when we think our artificial methods are perfect. Let each room be adapted to the rapid renewal of its air by swift currents which reach every corner as soon as windows and doors are flung open; and let this kind of airing occur more than once in each day's work, and once after each day. Such a room is seen in Fig. 9. A room planned as in Fig. 10 will be likely to have less perfect ventilation. And fig. 11 shows a still more decided error. (Compare rooms E and F in Fig. 13, which are well ventilated.)

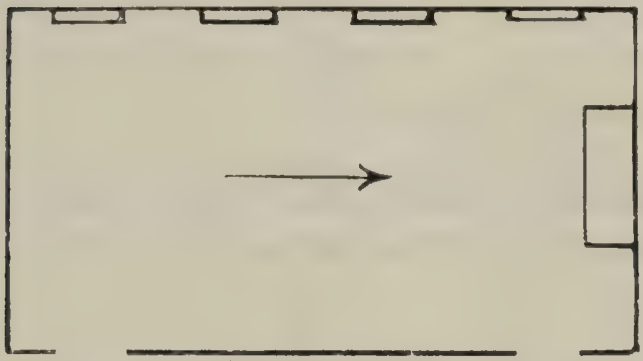

FIG. 8. A room well-shaped for imperceptible ventilation, or for quick change of air when desired. Two doors, four windows. Pupils face in the direction of the arrow.

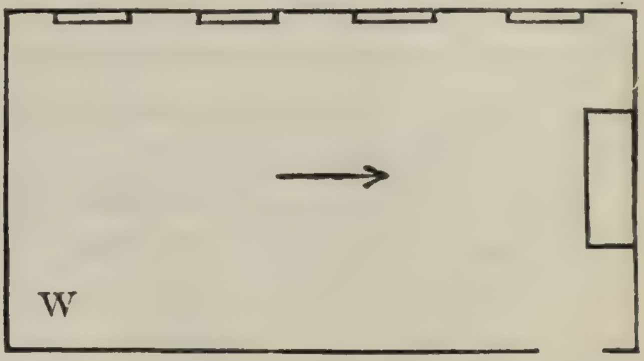

FIG. 9. Ventilation more liable to be imperfect. One stagnant corner at W.

A corridor or hall may be regarded as a supplementary aid to ventilation. It ought to have sufficient means of heating, and here, if anywhere, is the place where direct radiation is suitable. It should run straight through the house and have practicable windows at both ends which should be open except in the severest weather. Not being occupied by scholars the air will be easily kept pure under these circumstances. The use of transoms over doors is to draw upon this supply of pure air.

The school-house should be so cut up by corridors that every room should have a corridor running along at least one side. A house thus cut up is analogous to a city with broad streets; the air circulates more quickly and in larger masses.

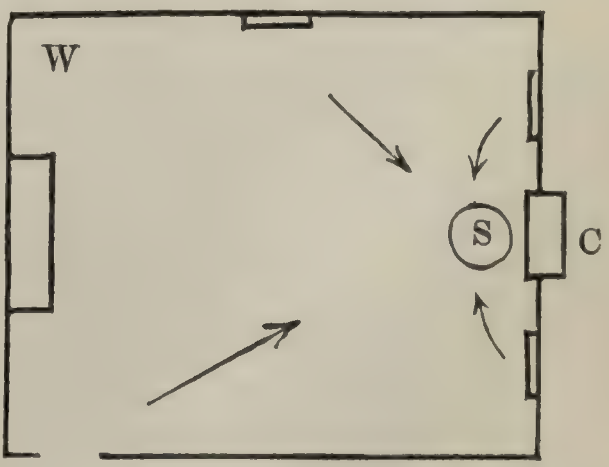

FIG. 10. The chimney, C, draws air from the room by two ventilating holes. The stove acts in like manner. Air entering by small cracks at a door and three windows, taking the direction shown by arrows, leaves the corner W. unventilated. Taken from a school in Rochester.

The heaping or packing together of rooms is a distinct impediment to ventilation. The air which passes into a room through unperceived channels may be estimated as sufficient to change the contents of the room once in an hour. Now, every room has four sides, a top and a bottom. Examine the condition of a room thus packed — say one of the middle rooms in Fig. 12. It has a cellar below, rooms on three sides and above; hence its unperceived renovation of air must come very largely from impure sources. Wind blowing from A will force air into B; wind blowing from C will force the air of the front room through the middle and rear rooms. The very multiplication of partitions, however, is itself a check to currents of air.

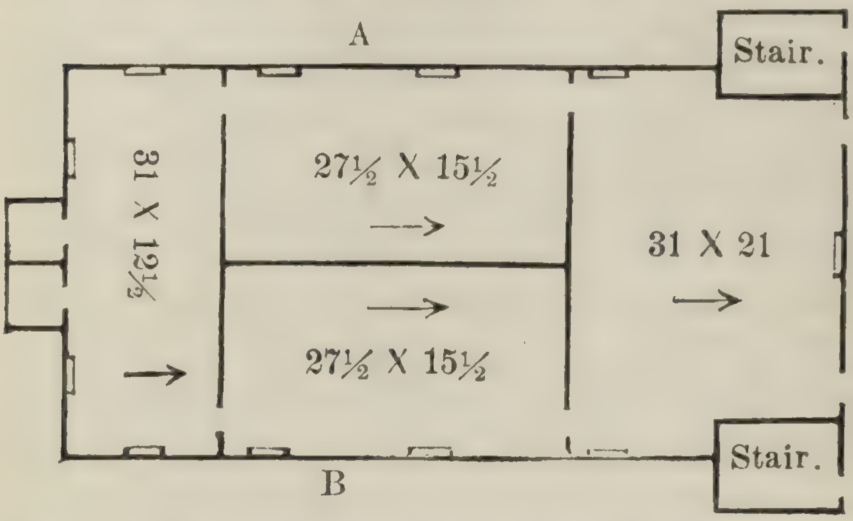

FIG. 11. Seventh Ward School, Troy. Unsurpassed for compactness; glass partitions; pupils face the light.

Figure 12 shows a good use of corridors. Better still, if rooms A, B, C, D, had been placed lengthwise along the corridor, instead of endwise.

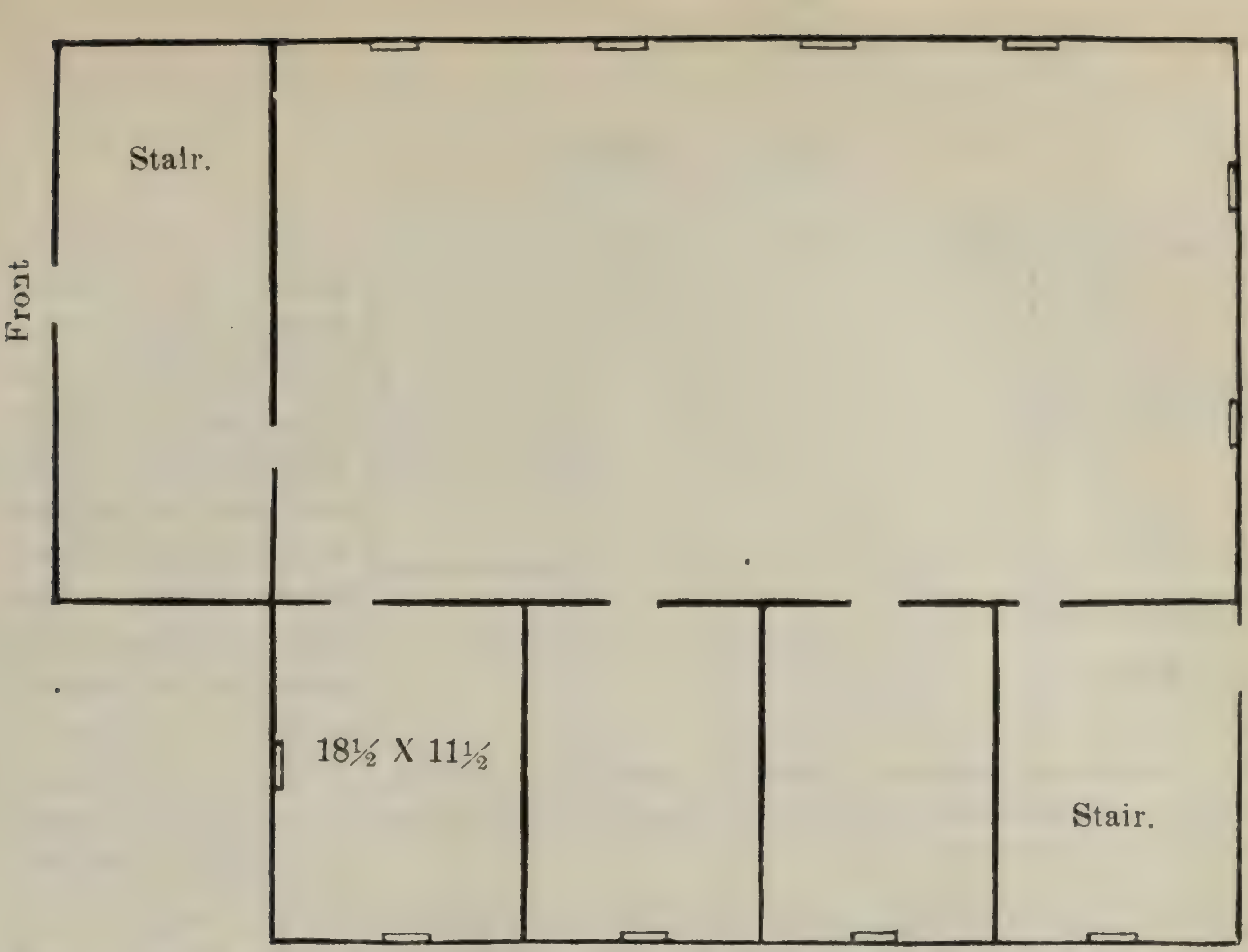

FIG. 15. Court Street School, Utica. Compact arrangement, four rooms contiguous. Could easily be enlarged so as to give four rooms, forty scholars to each room, with corridor in middle. Arrangement bad for airing small rooms.

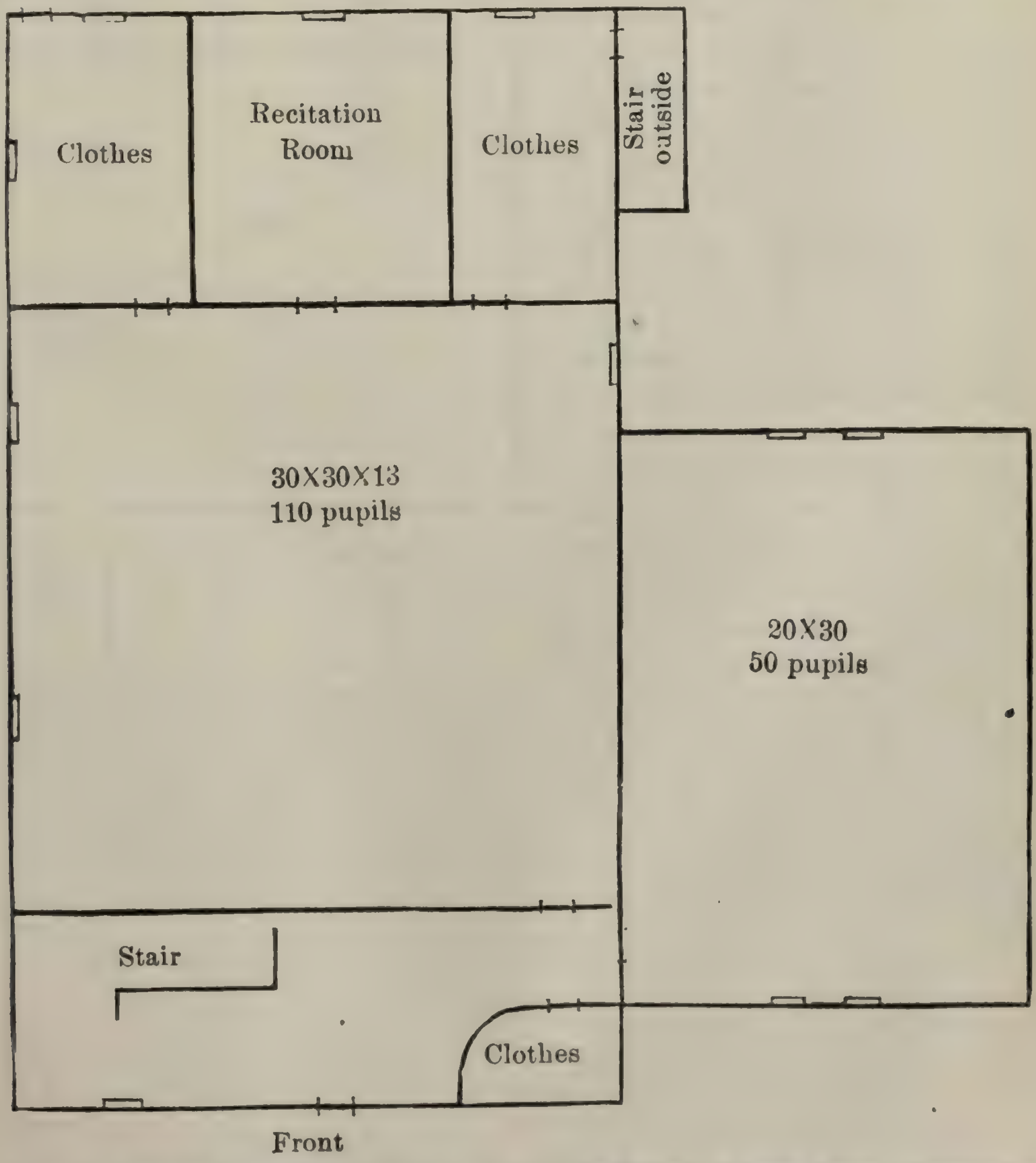

FIG. 16. Francis Street School, Utica. Light insufficient in large room. Compact arrangement interfering with lighting and airing. Very badly planned for natural ventilation.

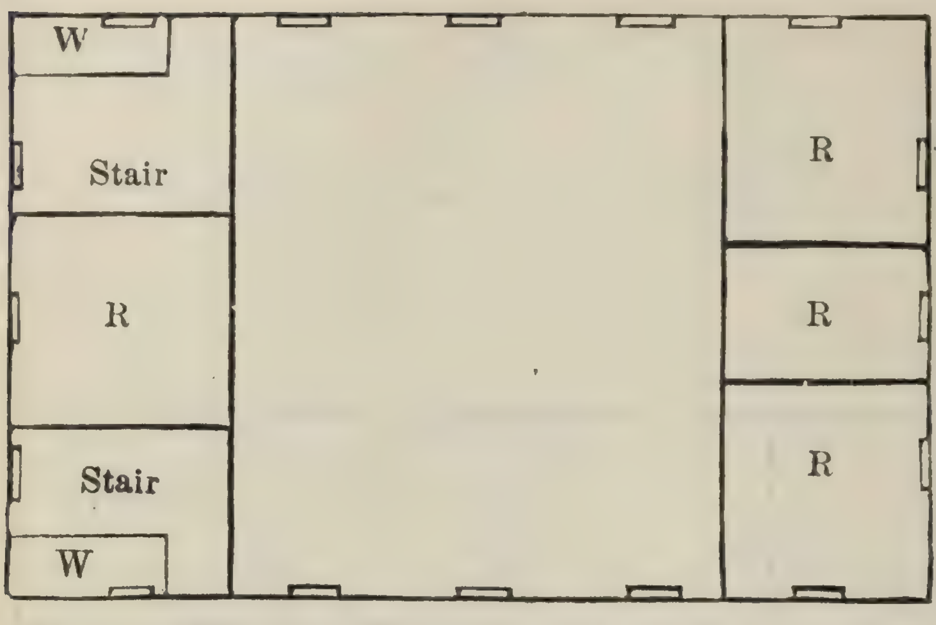

FIG. 13. Thirteenth Ward School, Troy, old pattern; recitation room system.

The analysis of plans of school-houses leads us to form a distinct class or group of those which have recitation rooms as an adjunct to one large common study room. This, the recitation room plan, as it may be called, is exemplified in Fig. 13. It has the faults of the compact plan, with very little modification. In a house of this sort one looks into the small rooms at once for instances of bad air and crowding. It is not sufficiently remembered by school builders that the class requires pure air when reciting as well as at other times. One-half of the scholars are sent into the small rooms, which in aggregate space may equal one-third of the room they leave. Those left behind enjoy tolerable air; while commonly those reciting are intolerably confined and cooped up, without a chance for relief (for draughts at close quarters are dangerous) until the hour is over. The example following (Fig. 14) shows an improvement in two respects, as indicated in the note to the cut; it is evidently based on the previous model, while the two following show a like affinity for each other (Figs. 15, 16). The objections on the ground of light will be named on a later page.

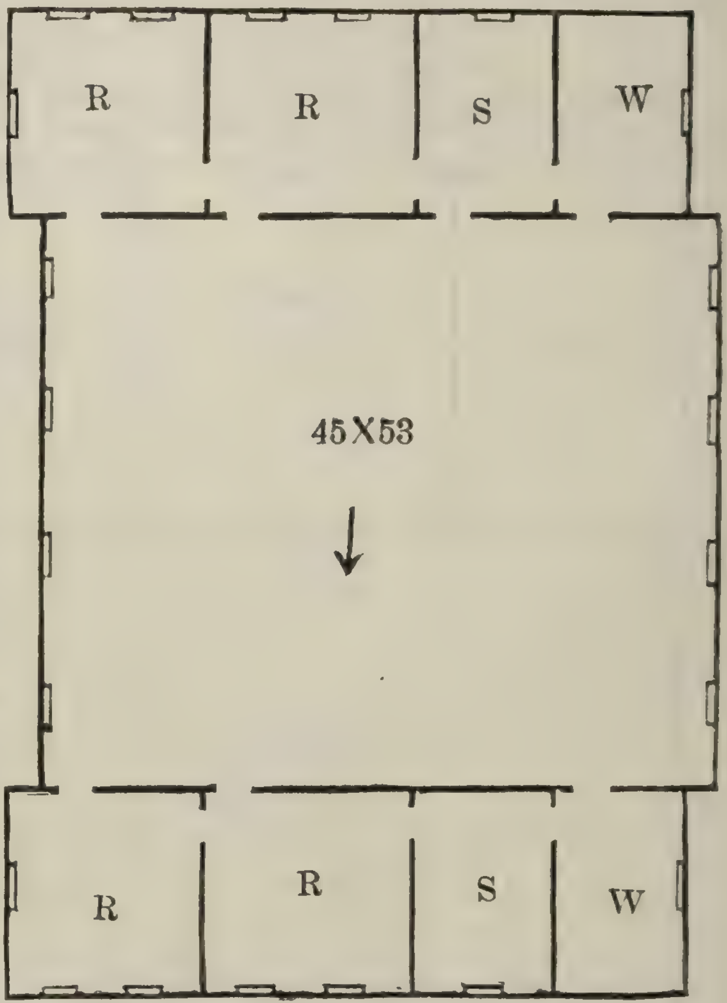

FIG. 14. Sixth Ward School, Troy, built four years ago. (R, recitation rooms, about 16 feet square; S, stairs; W, wardrobes.) This figure shows the recitation room system; size of R still too small for the number that occupy them; breadth of large room between windows more than is desirable. The improvement, as compared with Fig. 14, consists in the placing of stairs at both ends.

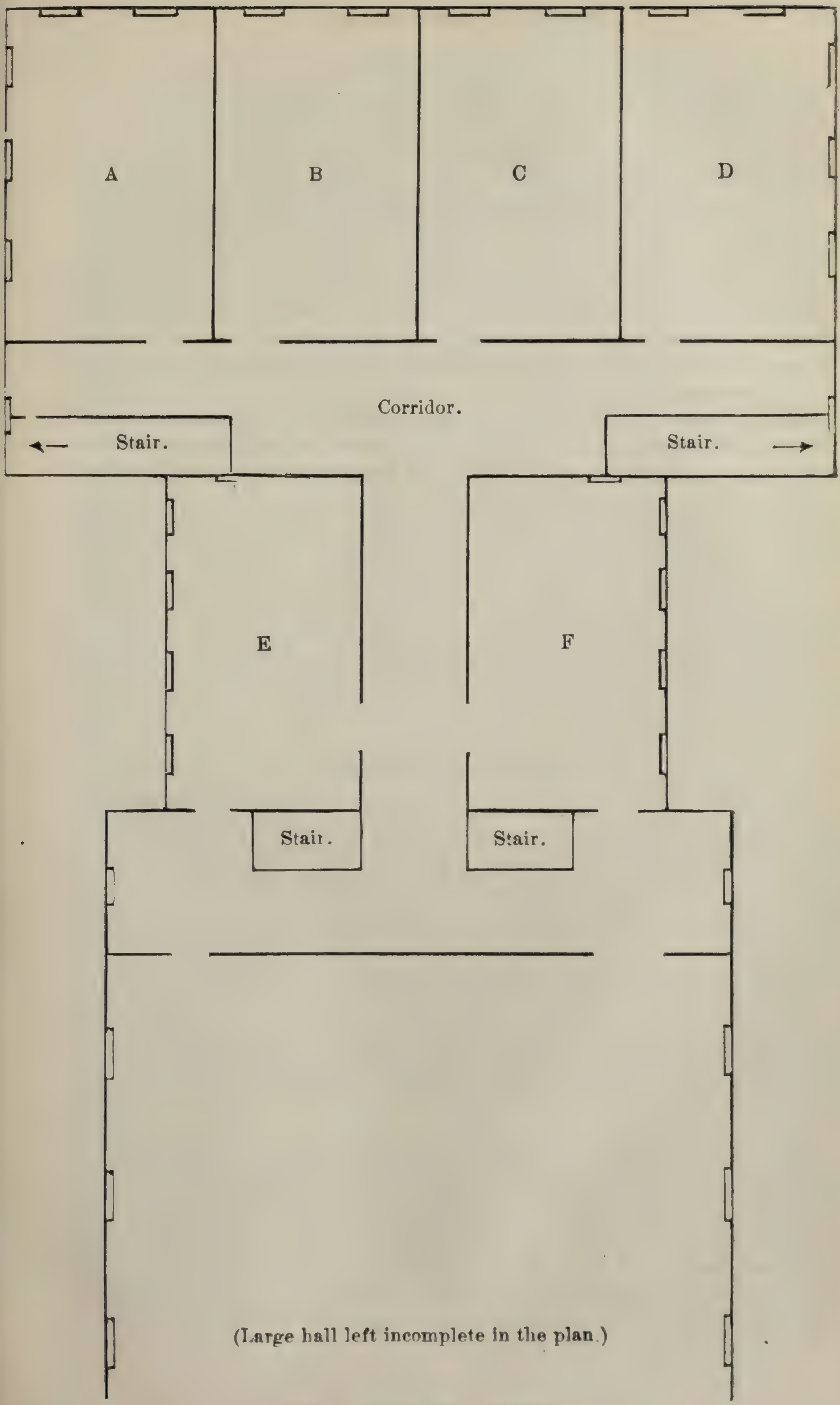

FIG. 12. School No. 2, Yonkers.

TEMPERATURE.

Poor ventilation is so often connected with overheating that the latter must be ranked with it as a cause of ill health. Hot rooms are a common cause of "taking cold." They give a headache to some. They sometimes aid in keeping up a forced activity of the circulation of the brain and nervous centers, causing nervous irritability and sleeplessness. Weak sight, especially near-sight, is greatly aided in its development by hot rooms and bad air. The heat acts at once in flushing the face and producing congestion of the eyes. It acts indirectly and chronically by producing a slow debilitation of the system and impoverishment of the blood. Such a condition is most favorable to the production of weak or short-sight. Bad air, poor food, late hours, overwork, dissipation, anxiety, are causes which work toward the same result.

What is "overheating?" It is a little difficult to reply. However, it is certain that there are teachers who succeed in keeping themselves and their classes comfortable and cheerful at temperatures ranging from 60° to 65° Fahr. I have seen a boy of ten years sitting in shirt sleeves, having taken his jacket off because he was too warm; the thermometer stood at 62° on the desk beside him, and the other pupils were comfortable also. It is clear to me that the range from "68° to 74°" is decidedly too high for a standard. Some teachers may require this degree of warmth, especially if suffering from colds; but a lower range, even one which has 68° or 70° for its highest point, seems desirable for schools. It is, moreover, a fact that we are comfortable at a lower temperature in pure air than in impure.

LIGHTING AND EYE-SIGHT.

The influence of school life in promoting the increase of near-sight is by this time one of those commonplaces of which the reader cannot be supposed to be ignorant. Germany, Russia, Switzerland and France have all contributed statistics, showing that the affection is a universal epidemic, localized wherever severe duty is pursued, attacking all grades except the very youngest, and increasing in regular progression from the commencement to the end of study. At the moment of writing, a paragraph is going the rounds of the newspapers, giving the statistics of the six hundred pupils in the High School of Chemnitz, Saxony, in which in eight classes, beginning with the lowest, the proportion of near-sighted is respectively 10, 17, 20, 25, 35, 44, 44, 64 in 100. This one series is a fair representative of a score all made with great care and exhibiting the same result.

The case is different in America, but only in degree. Children study a good deal less, their school accommodations (in cities at least) are better, and their mode of life in some respects is better, than in Germany. But there is a considerable amount of near-sight in this country. Three hundred and twenty-one students were examined by Dr. Derby on entering Amherst College, and 35.9 per cent were found short-sighted. One class entered with 44 per cent and graduated with 50 per cent. In brief, although we have less absolute near-sight, still that which we have is of the same nature and tendency; it is engendered by study, and is increased by continued study as rapidly as in Germany.

The percentages of near-sight in 2,500 public school children, examined by Drs. E. C. Loring and R. H. Derby, in New York city, were 3.5 for the youngest classes and 26.78 for the oldest. The poverty of blood and weakness of fibre which are produced by bad ventilation and over-heating contribute to the causes of near-sight in no inconsiderable degree. The point of most immediate interest, however, is the amount and distribution of light in school-rooms.

Certain fashions in architecture interfere with the requirements of airing and lighting. Pointed windows, heavy mullions, buttresses and cornices, may do so. In all styles, except that based upon practical usefulness, the size of and position of windows are subordinated to architectural effect. Small sized windows are employed to produce an effect in the façade, in that domestic classic style which was so much in vogue in the early part of this century, and which has left traces upon our school architecture. A frieze, in a classically proportioned house, occupies a band of several feet in width below the eaves, which must be kept sacred from such vulgar uses as that of windows. The frieze may not be actually there, but a place is left for it, a blank ribbon of wood or stone above the brick wall and the window-heads. Classic usage requires a strict subordination of windows, one might almost say, a suppression.

In certain places there prevails the singular custom of making the upper story much higher than the lower. For example, in Rochester, School No. 19, the distance from the top of the glass to the ceiling is 28 inches in the first story and 78 inches in the second. The High School at Binghamton has four stories, the height of which, beginning at the bottom, is respectively 14, 15, 16, 17 feet. This practice is related to the custom of using the upper story for a large hall or assembly, but it has been retained (from habit?) in cases where there is no such hall. It has the advantage of airiness, but the architects have not seized the full advantage of the arrangement by carrying the windows up near the ceiling. A certain loss of light results, which is seriously felt in certain cases, as in that of the High School at Rome in Oneida county (a classic structure).

Glass sliding-doors are still in frequent use in some places, but I am inclined to think that they are going out of fashion. It is doubtless supposed that they give aid in lighting the rooms; but this is very questionable.

During the inspection of school-buildings, conducted under the orders of the Committee on Public Institutions, in 1881, many buildings containing glass sliding-doors were seen, and compared with those of similar plans which have no such partitions. As a result, it has seemed desirable, not merely to express disapproval of the glass partition plan, but to give some illustrations, and explain the reasons.

From a theoretical point of view, we must consider:

1. That the glass in the partition reflects a part of the light and throws it back out of the window.

2. That it absorbs a part.

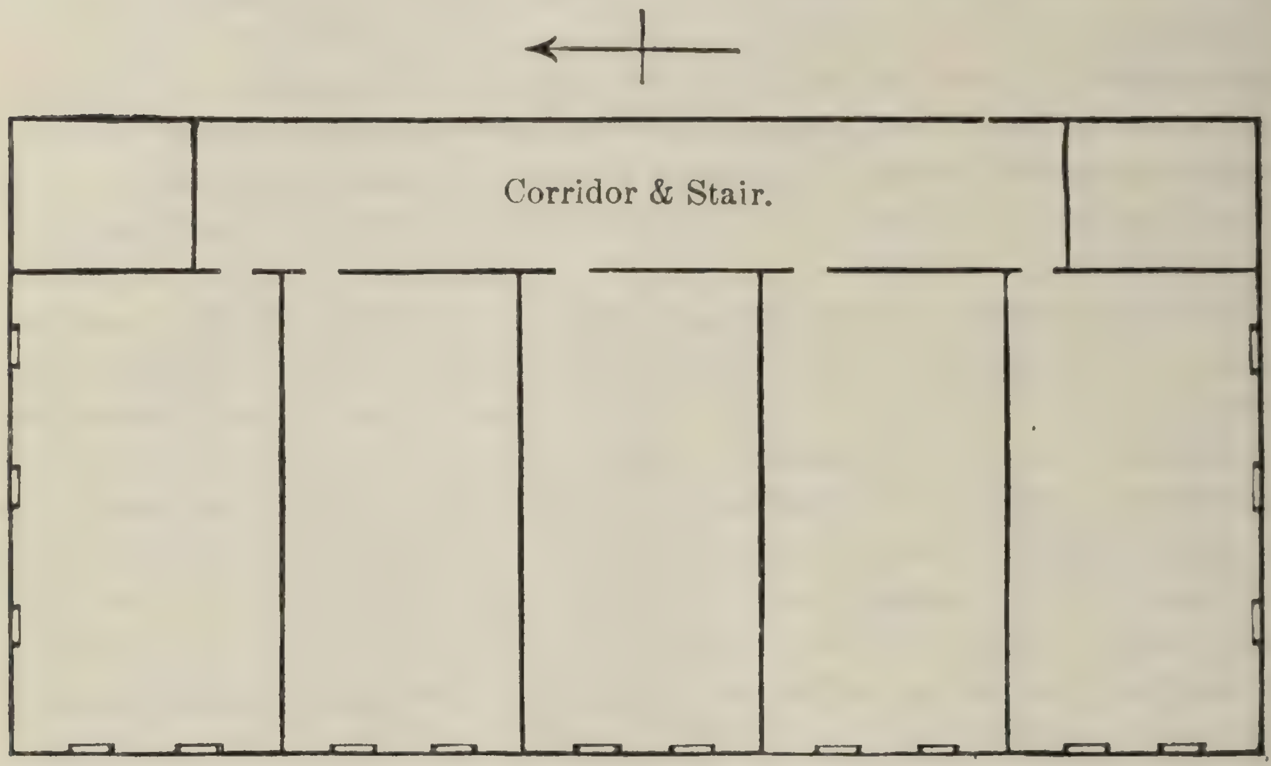

FIG. 17. School No. 13, Rochester, Second floor. Division into five equal rooms by glass partitions. Very poor light and diminished ventilation in three interior rooms.

3. That it allows a part to pass straight through and out by the windows of the opposite side of the room or house. To this add the fact, that in examining the plans of houses where glass partitions are used, we find that there is not generally light enough to supply each separate room supposing the partitions to be solid walls; from which we are entitled to infer that the planners thought that the supply was increased by using glazed partitions. Figure 17 will illustrate this. No one could suppose that the architect intended to illuminate those long slips of rooms by two moderate-sized windows at one end; but in reality the light does come almost wholly from that quarter in all the inner rooms.

4. In brief, the total amount of light available in the case of glass partitions is no greater than in that of white solid partitions. The white wall does not waste any more light than glass does. The light that goes through glass to an inner room is light that is needed in the outer room.

Figure 18 shows a more recent plan, which looks attractive. The middle room of three receives light from the rear and two sides. Why does it not receive enough? The answer is a two-fold one: First, because so much side-light is cut off, and second, because the side-light is so distant and slanting.

1. To a person standing in A (see fig. 20) the objects in B seem less distinct than those in A. A part of the light is thrown back from the glass into A, as we may see by the reflections on the sash. The ceiling and floor of B are darkened by the wooden frame work, and the grooved beams in which the doorheads slide. A person at B. notices an increase in the light when the sash is opened.

2. A side-light from the window at A cannot be expected to be of much use beyond the width of A. It strikes B too obliquely. The simple rule, of allowance for depth is that no window shall be required to throw light to a horizontal distance greater than once and a half its height, supposing its head to be quite near the ceiling. The diagram represents a row of rooms, each twenty-four feet wide and fourteen feet high. The window head is three feet from the ceiling, and eleven feet from the floor (as is very often the case); the light may be sufficient as far as the mark S on the floor. If the house stands on a large lot with a wide, open outlook, the inner seats, in A, will be well lighted; but in an average street, with houses of moderate size opposite, they will be poorly lighted. A portion of the light in B will be very poor, indeed. Finally, the light that goes through from A to B is chiefly lost to A; if a smooth white wall were put instead of the glass sliders, the wall would throw the light

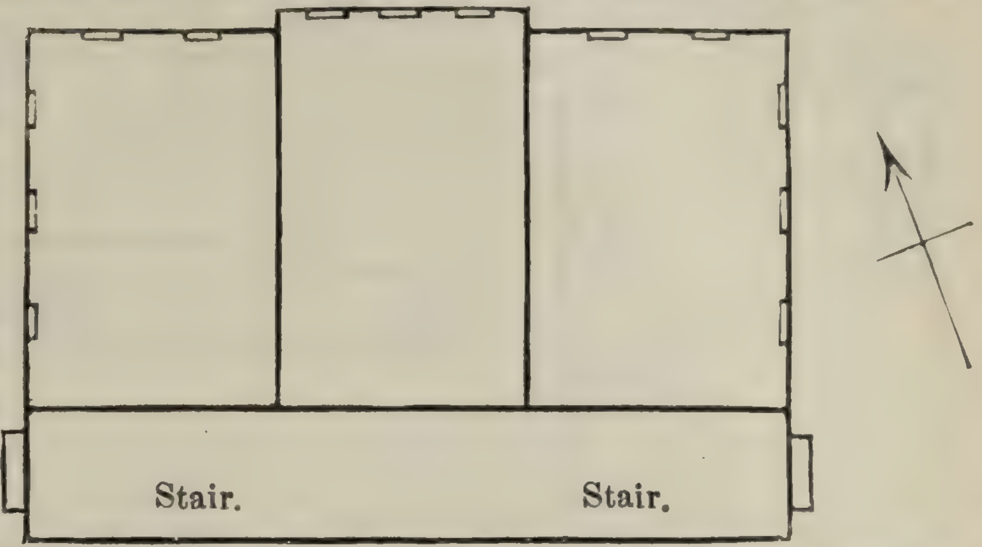

FIG. 18. School No. 24, Rochester. Three rooms 32 feet long, with glass partitions.

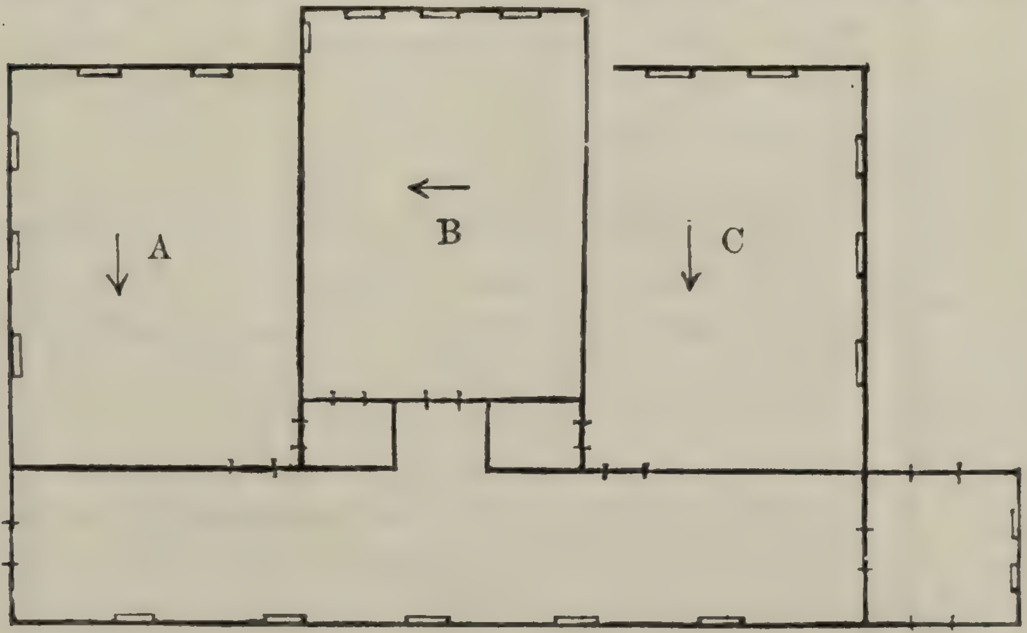

FIG. 19. School No. 26, Rochester; built 1879; first floor. Here there is an evident attempt to remedy a defect in such a plan as that of Fig. 18. The middle room is of the same size as the others, but has five windows all at one end; a great gain as compared with No. 19. The inferiority of B to A and C is still evident, however.

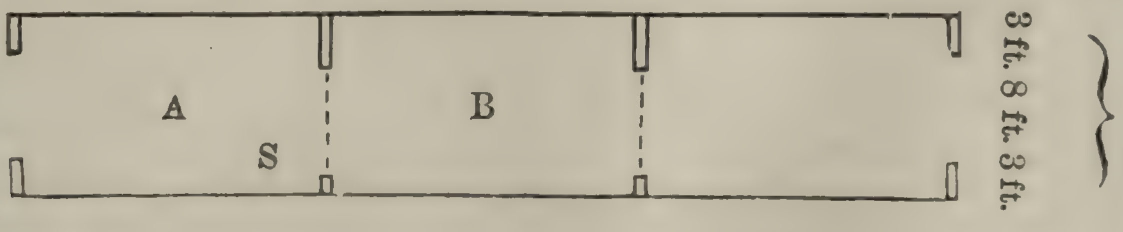

FIG. 20. Diagram of three rooms in Fig. 19, in perpendicular section; (open spaces at right and left represent windows; dotted lines represent glass between rooms.)

back upon the desks in A. This part of the light is really needed, and it is most needed just where it comes, at the back of the room

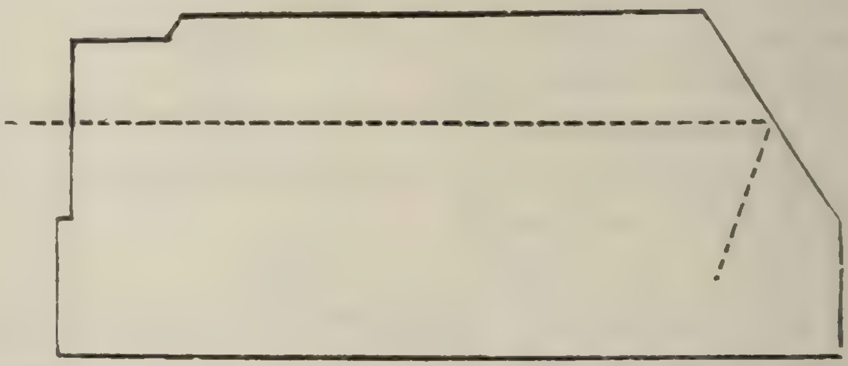

FIG. 21. Cross section of room with sloped inner wall, with a ray of light reflected from wall.

A good deal is gained by slanting the inner wall (where that is feasible) so as to throw the light more directly downward, as in figure 21 The writer has knowledge of one room in the Albany High School which is a favorite with the pupils for this reason. But even an upright wall is of much value as a light giving surface. The ceiling is of great importance in this respect, and must not be cut up by cross-beams; it should be white, while the walls are tinted very slightly in some neutral color.

If the three rooms represented in figure 20 were thrown into one, the result would be like figure 22, which represents one room in the Syracuse High School, seventy-four (74) feet in width (E F), and fourteen feet high (D E). A ray of light is supposed to enter at the top of the left-hand window (R), and to divide into three parts. The first part (A) is ten-twelfths of the whole, and falls on the desks in the left-hand half of the room. One-twelfth (B) passes to the desks in the other half, and the remaining twelfth (C) goes out at the opposite window. The object of the figure is to show how unimportant a fraction of the whole light from any given window reaches the distant parts of such wide room. If a glass partition were set up at G, the amount passing through could not be more than one-sixth of that which is diffused in the left-hand room, even leaving out of the account the obstruction caused by the frames and the glass itself.

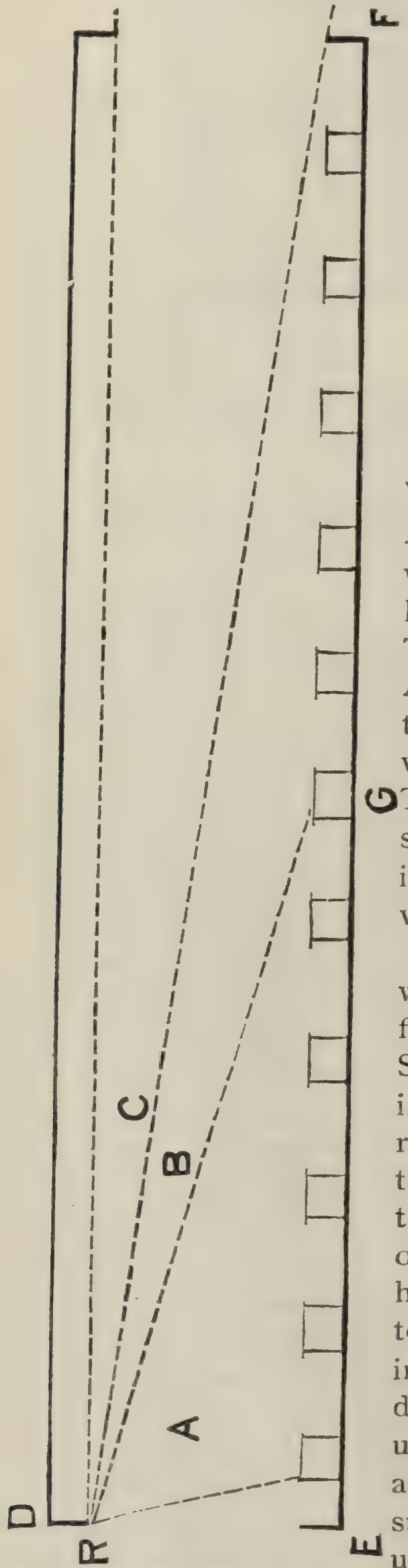

FIG. 22. Perpendicular section of Syracuse High School, from side to side.

By carrying out the idea further, we may enlarge the desk at G, and may represent in figure 23 the extreme slant at which rays of light will strike the desk, so that a small object casts a shadow over the whole lid. In figure 23, however, the light is represented as coming from the direction of the middle of the window, in order to get an average result. In a room thirty-six feet wide, the inside row of desks is in such a position.

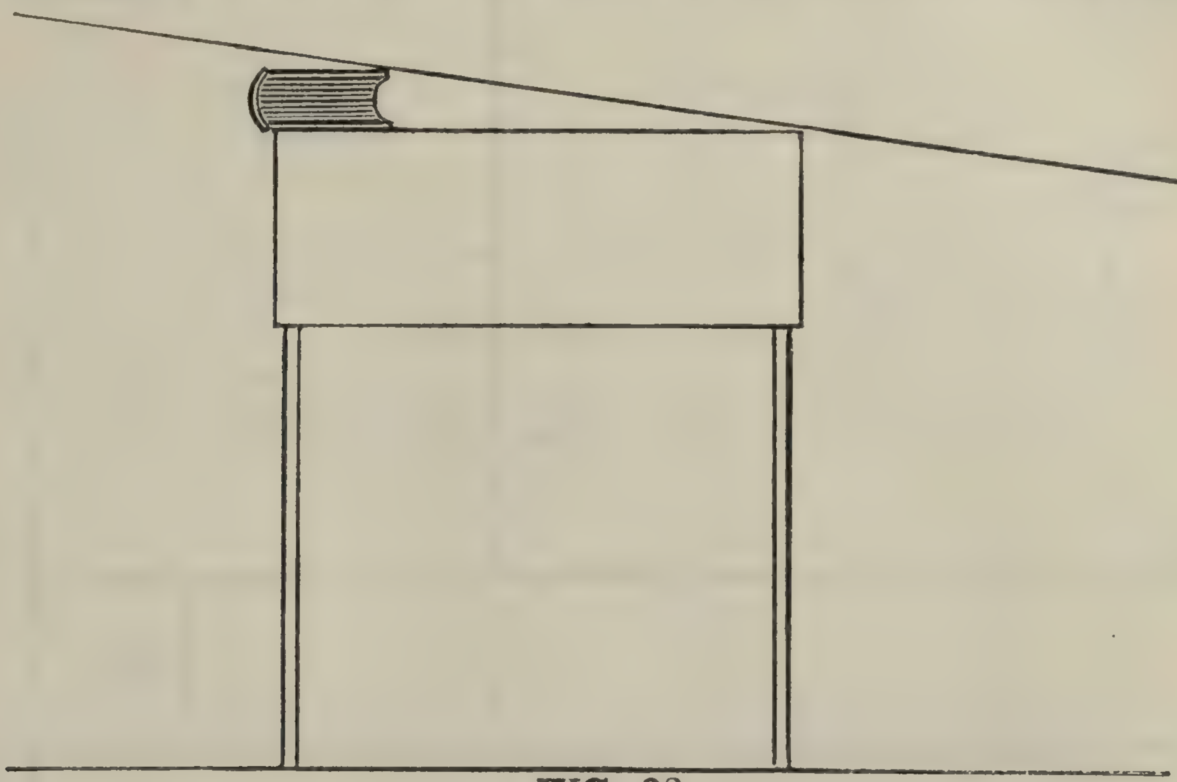

FIG. 23.

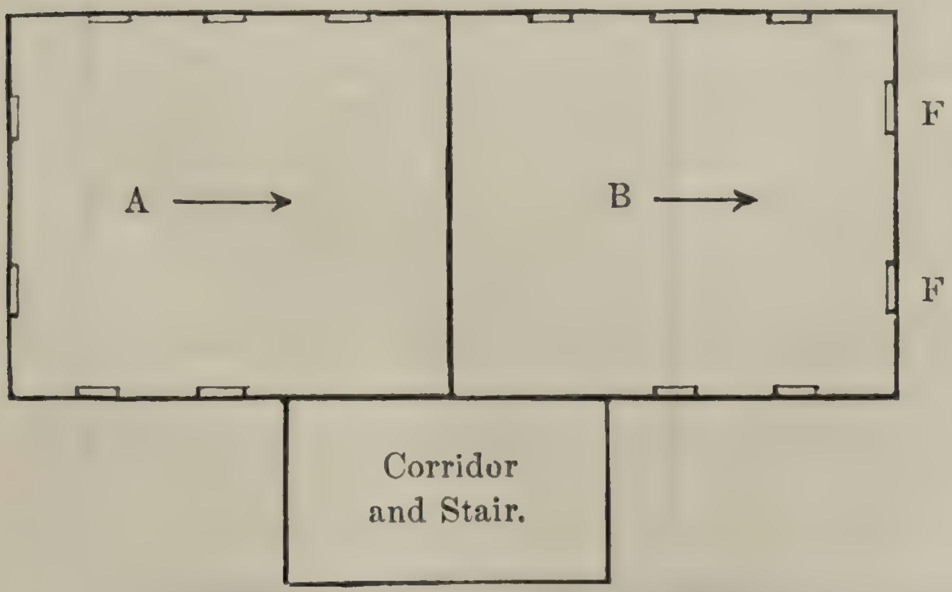

FIG. 24. School at Hoosick Falls.

The most valuable light is that coming from the center and upper part of the room or window. The more perpendicularly it strikes, the better. Therefore, the window-heads ought to be as near the ceiling as possible; that is within six inches or thereabouts.

A few more illustrations of imperfect lighting may profitably be added. Fig. 24 represents a school at Hoosick Falls. The two rooms, which constitute one floor, are each thirty-five by thirty feet in size. A sliding glass partition throws both into one, for the purposes of exercise in common. This presupposes that the scholars face the same way in both rooms. The windows at F F are necessarily closed, and the light in B becomes insufficient, the combined area of the glass equaling one-fourteenth of the floor space. Other instances of facing the light for a similar reason are shown in figs. 25, 29-32, and others, where, as usual, the arrows show the direction of the facing.

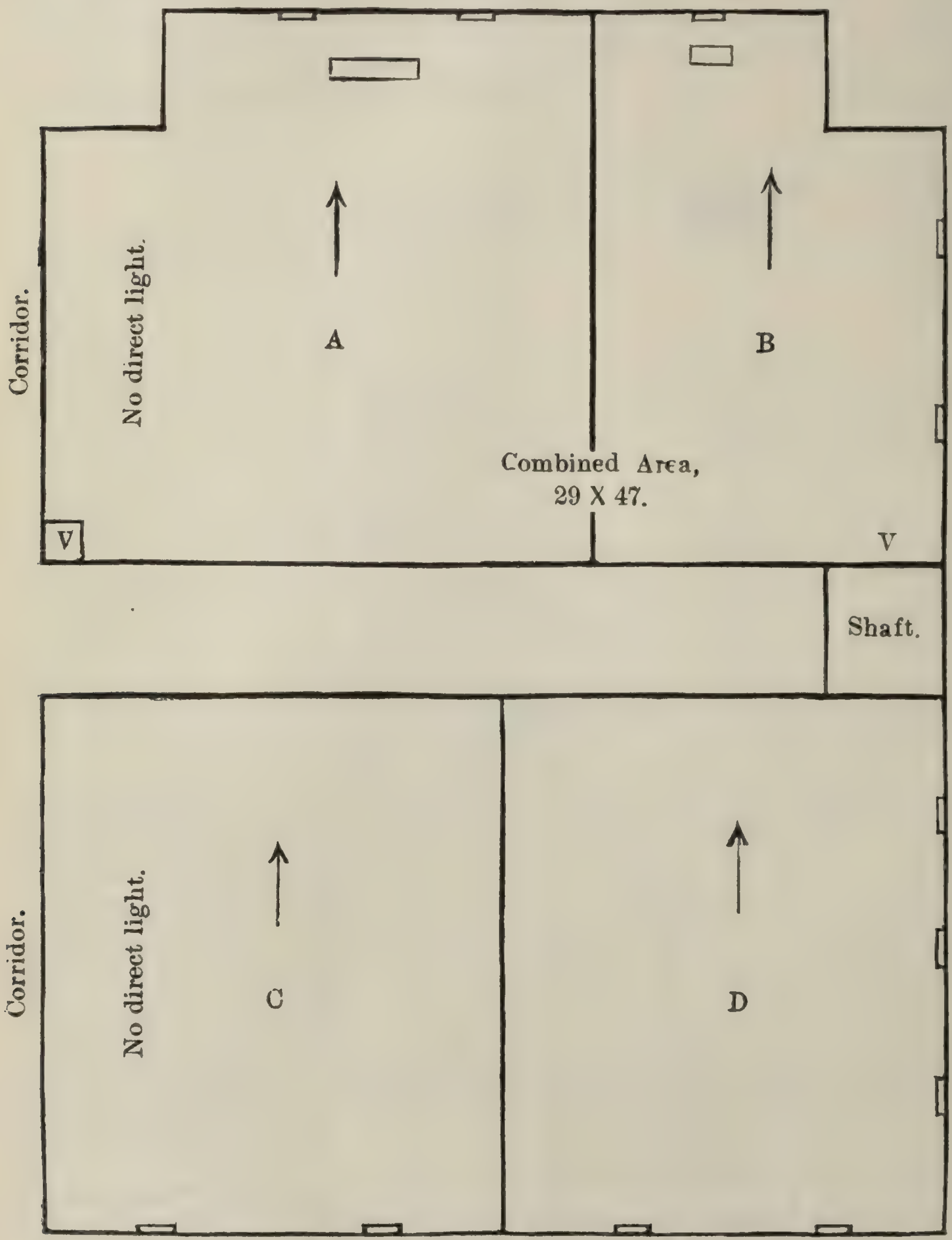

FIG. 25. School No, 10, Rochester, third floor.

Fig. 26, represents four rooms in the upper story of school No. 10, Rochester. The corridor occupies the left hand, but is not given in the drawing. The four rooms are entered by an alley between glass sash-work. The partitions between A and B, C and D, are of glass. A and C are poorly lighted ; A especially so, since all the light, with the exception of a little from the windows in B, comes from directly in front. There are, of course, windows on the outer corridor wall ; they may be said to be thrown away for the purpose of lighting the rooms, and the same criticism applies to figures 17, 18, 19.

The arrangement is an extremely bad one. Even the shaft (for ventilation) is so situated as to take the place of one window, and the towers (indicated by indentations at the corners) take the place of at least one window each.

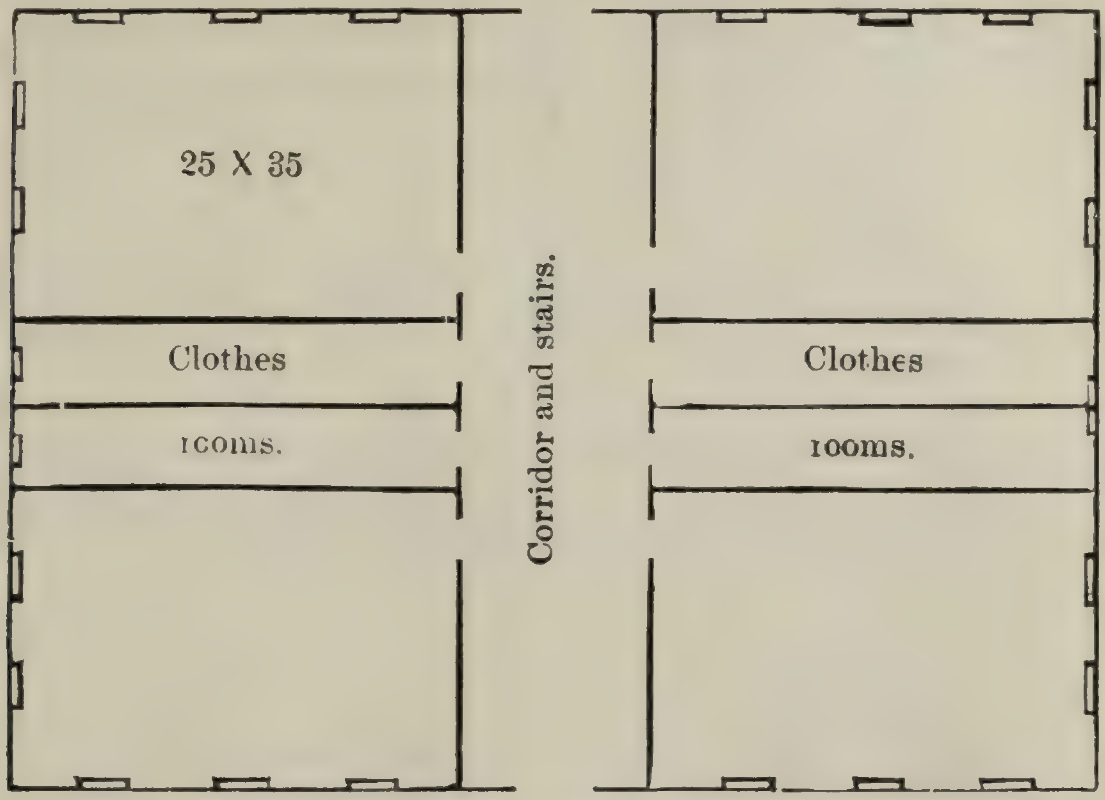

FIG. 26. Type of a school-house with none but corner rooms.

It is easy to see how this plan might have been changed. The house is nearly square, and the dimensions would easily admit of four oblong rooms on a floor, with the entry or hall running straight through between. Upon this plan are built schools No. 15, Rochester, and 21, Albany, both at present fairly well ventilated, owing in large measure to the arrangement which gives thorough ventilation of the halls, assigns to each room two exposed surfaces, and does not allow any two class-rooms to come in contact. The scheme is illustrated in Fig. 26.

The difficulty in the case of corner rooms is, that either the scholars or the teacher must face the light. To many teachers this is a serious evil. Injury may easily be inflicted on the eye-sight. If the teacher is much employed in work with the blackboard, and the maps, and reading-charts, and is more on her feet than in the chair, the difficulty may be overlooked. But if obliged to sit while conducting lessons or overseeing study, she should be protected by a screen. Such a screen is in actual use, and is much prized in all the rooms of the Albany High School. There are two patterns, one wholly of wood, the other a wooden frame covered with cloth and sliding on an iron bar with a heavy foot. (Figs. 27, 28.) They are placed on the desk in front of teacher. The ideal school-room is one with only one exposed side, whereby the most uniform illumination is secured. (Fig. 8.)

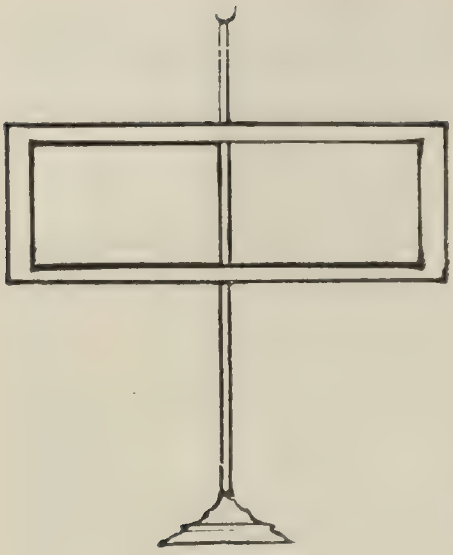

FIG. 27.

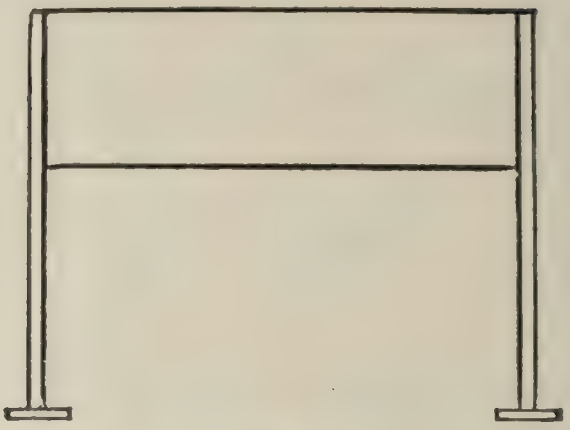

FIG. 28.

Country schools are apt to be incorrectly lighted. But few are so badly off as this octagon (fig. 29), where each scholar faces three windows and stove, or the oblong (fig. 30), where the case is nearly similar.

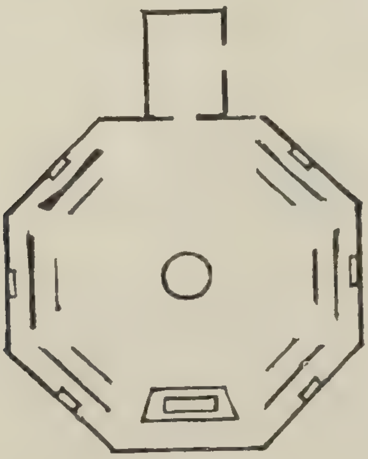

FIG. 29.

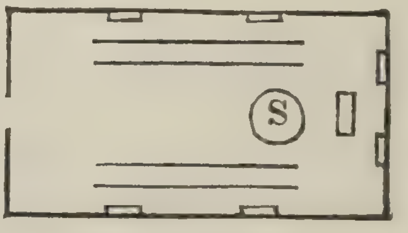

FIG. 30.

The principle that scholars should never face a light when at work is violated in the case of a long room (fig. 31) in the Union school at Schenectady. Here are seated one hundred and fifty scholars of nearly adult size, all facing in one direction. Those who occupy the forward part of the room are under great disadvantages, as the light which comes from the rear is distant, and that in front is near. The room measures sixty-seven feet by twenty-seven feet. The building was originally a college.

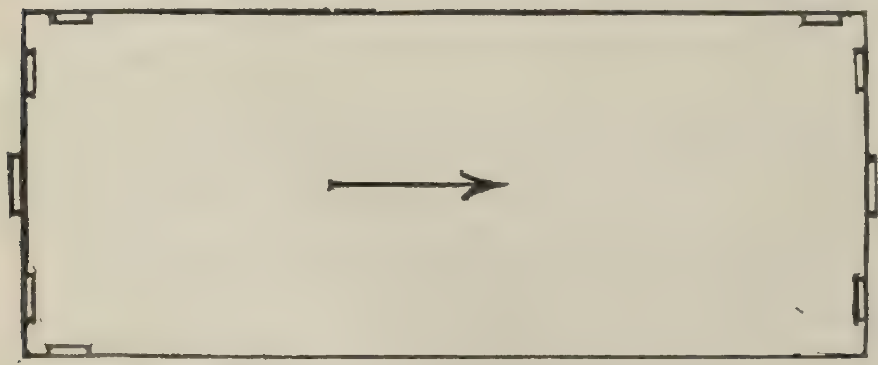

FIG. 31. Schenectady Union School.

In the newest school in Schenectady the scholars turn their backs upon a blank wall and face windows. (Fig. 32.)

From Brockport State Normal School are selected two cases of bad lighting, which is dependent on the great width of the structure. It would be hard to re-arrange the inner partitions so as to give good lighting. Fig. 33 is a room used for class work, 56 by 34 feet, having all five windows at one end. Fig. 34 gives a room *devoted to drawing*, with the windows similarly placed; it is 34 feet square. And as an instance where the occupants consider the light superfluously abundant, Fig. 35 is a recitation room in the third story, 32 by 18 feet, with five windows, having a glass area = 1-5.3 of the floor area, with a free sky in front. The area of glass in Fig. 33 is 1-16, and that in Fig. 34, 1-9.6 of the floor area. These instances are confirmatory in a general way of the principle that glass surface should equal from 1-5 to 1-6 of the floor surface in all but exceptionally open places.

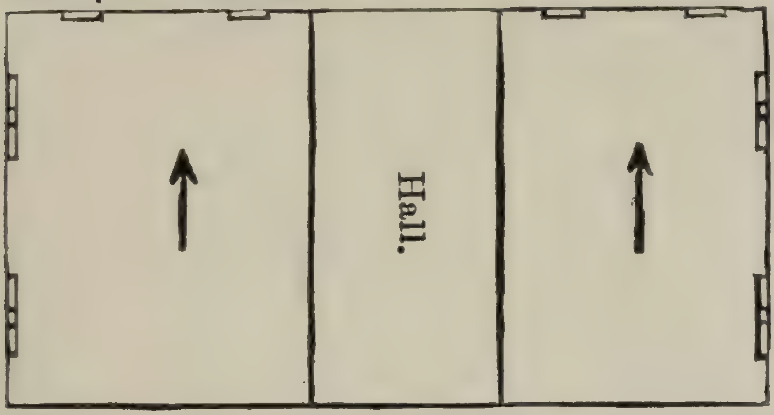

FIG. 32. Schenectady, Park Place. Facing light needlessly.

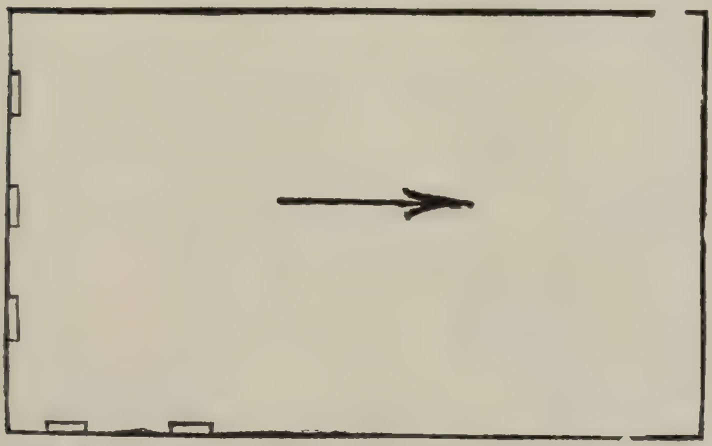

FIG. 33. (Defective lighting.) Room 56x34 with 5 windows at one end. Brockport Normal School. Windows badly placed and insufficient (glass area = 1-16 of floor area).

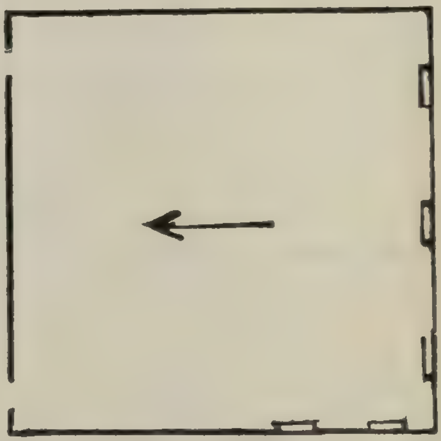

FIG. 34. (Defective lighting.) Room 34 feet square, with 5 windows. Badly placed, insufficient. Brockport Normal School. Used for drawing and writing. (Glass area = 1-9.6 of floor area.)

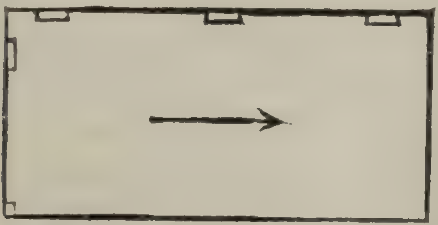

FIG. 35. (Light superabundant.) Room 32x18, windows advantageously placed, glass area = 1-5.3 of floor area, and the room looks fully upon the sky.

Fig. 36 is a room 50 by 35 feet, lighted on three sides. The large platform is placed opposite the door, hence the scholars must face four windows. For the case of this badly arranged room the remedy is simply to reverse the position of the pupils. This would, however, give discomfort to a teacher unless a screen were used.

Fig. 37 is an old building. The lighting of the main room is excessively bad. Nearly one half (the rear 18 feet), has no windows, and the scholars face three windows. It is not feasible to reverse the seats for that would bring the teacher's desk to D, which is quite in the dark and faces three windows. The upper story is curiously divided (fig. 38), with one room of very singular proportions: 8 x 23 feet.

Fig. 39 is a one-story brick school at Brockport. With only three rooms, there are provided three entrances (R, T, W are the vestibules). Room C is badly lighted. Lighting has been sacrificed to the symmetry of the plan. The south side of room C ought to have those windows which could have been accomplished by moving R, S, T, to the left, and making T smaller. Room A has one superfluous window on the right, which embarrasses the occupants.

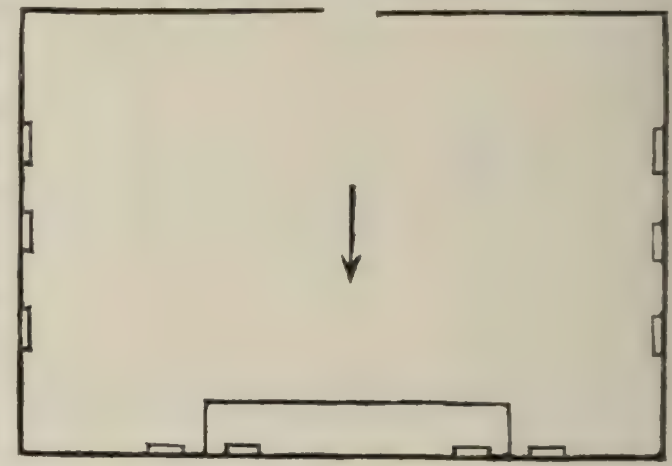

FIG. 36. (Defective lighting.) Room 50 x35'. Scholars face four windows, which have to be darkened. The width of 15 feet in middle of room is imperfectly lighted by side windows. (Rochester, No. 2.)

The corridor ought not to occupy the side of a house, unless that side is known to be undesirable for furnishing light. Exceptions may be made under fit circumstances. But when a house is placed on a narrow lot, under circumstances which make it even possible that the side lots may be built upon, it is folly to waste the best light (that on the street-front, in cities, may be called such) by occupying it with corridors. If it be thought necessary to use narrow lots, they should at all events run back to the next street. But the necessity does not exist in any non-metropolitan city.

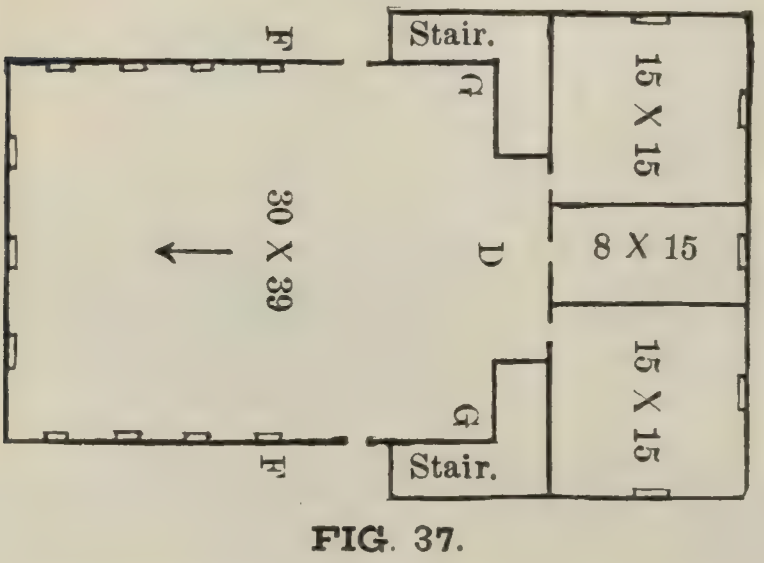

FIG. 37.

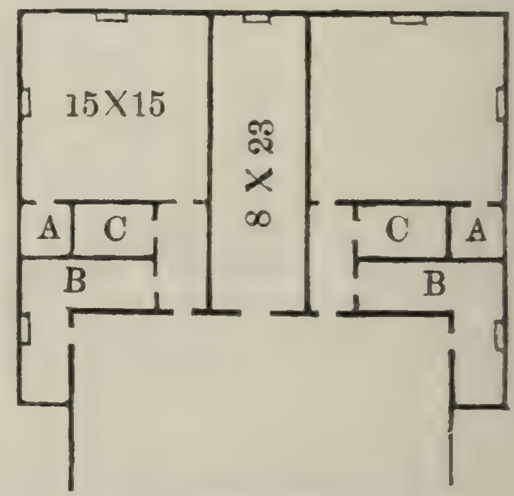

FIG. 38.

One of the chief recommendations of a plan like that of fig. 26 is the freedom of exposure to the sun's direct rays. Corner rooms are wholesome to live in, and it seems undesirable to occupy that part of the plan by staircases, as in fig. 40.

It will be a useful exercise for any one who is concerned in the plan for a new school, to take some of the outlines here given, and try to alter them in accordance with just principles. Take fig. 40 with its simple oblong form, and try to redistribute it ; with straight halls going clean through, with corner rooms as many as convenient; with the oblong figure preserved in each room if possible ; with 600 square feet floor to each, or nearly that, and more if wished ; with dressing-rooms of sufficient size

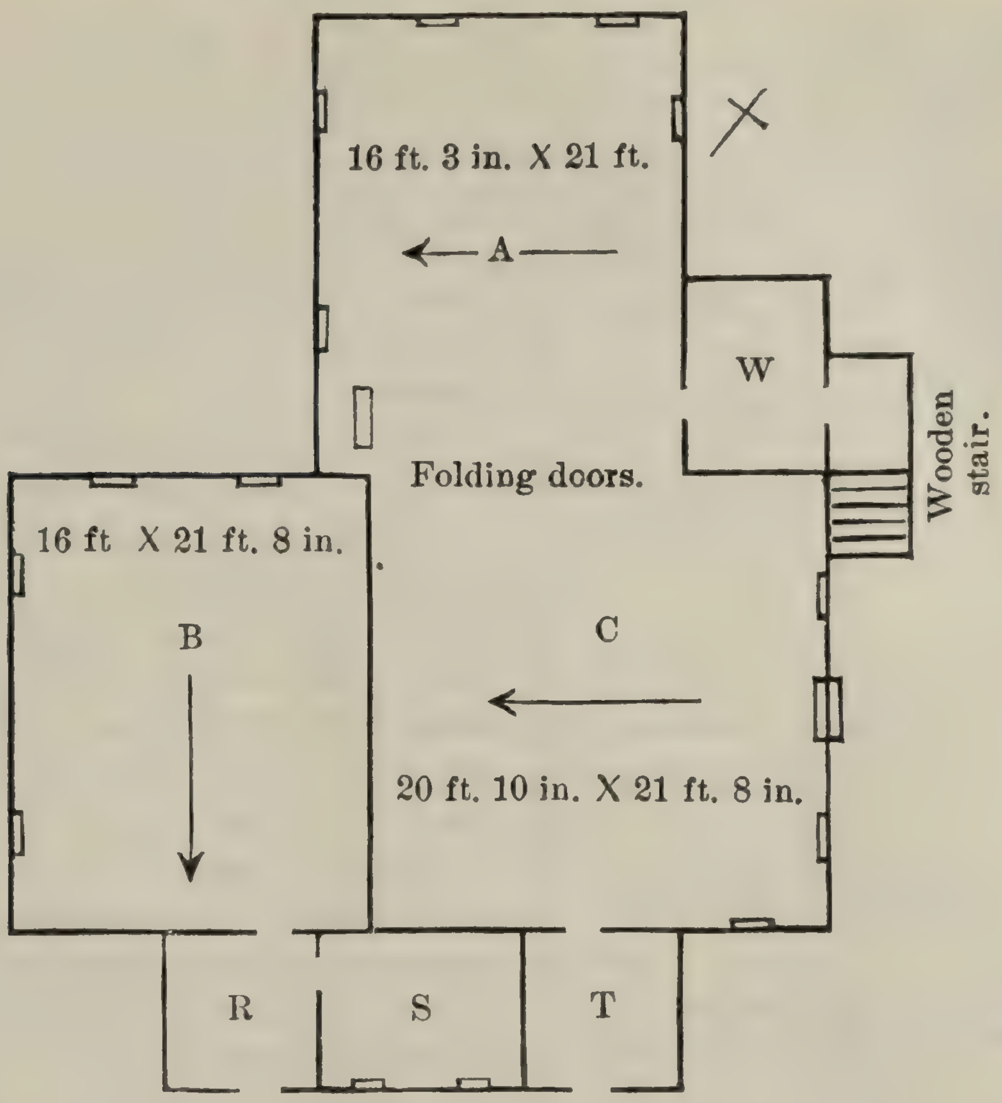

FIG. 39. Brockport Common School, floor plan.

and properly lighted; with no room so packed as to touch other rooms on more than two sides.

PLAN OF A MODEL SCHOOL-ROOM.

The dimensions of rooms for study should not be excessive in either direction. Very large rooms cannot be lighted from one side, which is desirable to avoid cross-light. If both sides are used for windows, the scholars necessarily receive light, one-half from the right hand and one-half from the left. The former is objectionable in writing or drawing because the hand throws a shadow on the page. The ideal room is lighted from one side only (Fig. 8), and its size is limited by this condition; for the height of such a room cannot be placed at more than fourteen feet, and this limits the available width of the room (equals one and one-half times the height of windows) to twenty or twenty-one feet. The width of an aisle being added on the inner side gives twenty-four feet as the maximum

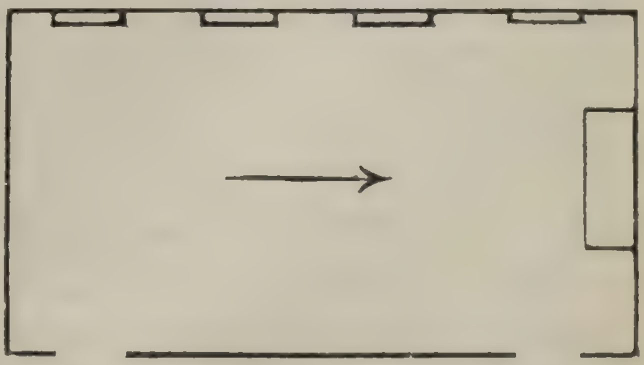

FIG. 40. A room well-shaped for imperceptible ventilation, or for quick change of air when desired. Two doors, four windows. Pupils face in the direction of the arrow.

desirable width for an ordinary school-room. The dimension in the other direction may be greater but is limited by the need of having all the children read words on the blackboard. Thirty-two by twenty-four, and fourteen in height, gives a cubic space of 10,751.

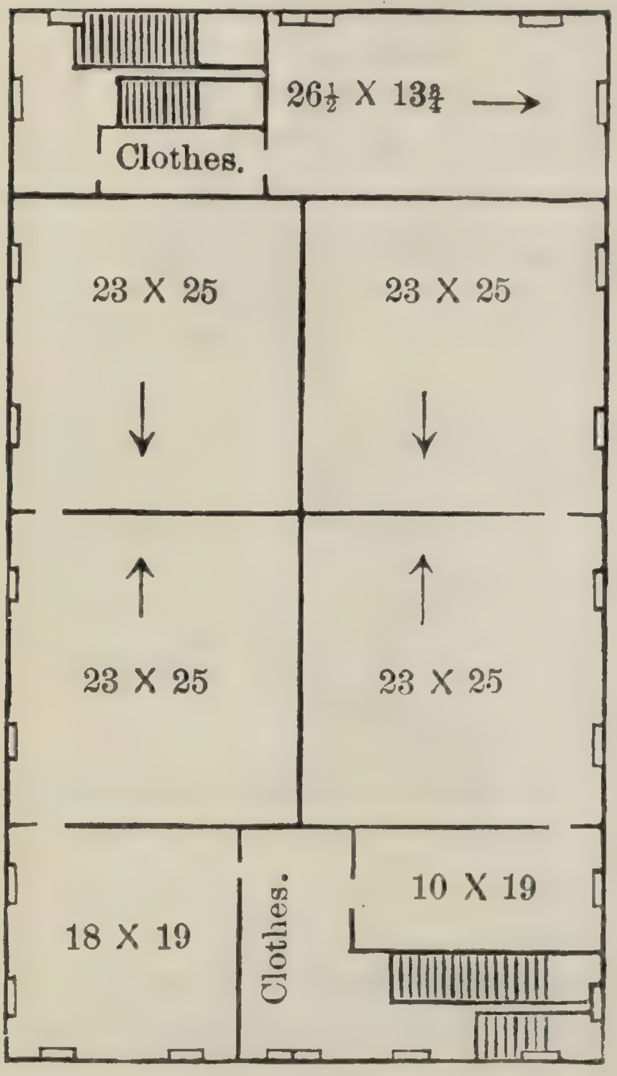

FIG. 40.

The next step is to ascertain how many scholars may safely be placed in the room. That depends on the amount of fresh air that can be introduced. It may be assumed that it will not cause dangerous draughts to bring in enough air (in suitable ways) to change the entire atmosphere once in ten minutes, or six times in an hour. The hourly supply is therefore 64,512 cubic feet of fresh air. Divide this by 1,800, the quantity assumed as required by each schoolboy, and it follows that thirty-six pupils can be accommodated with sufficient fresh air in that room. In this case each scholar has 300 cubic feet of space, and 21 1-3 square feet of floor-space.

If we assume that air may be admitted more rapidly, viz., so as to change the contents of the room eight times in an hour (which is probably near the maximum of safety), the result is forty-eight pupils and 226 cubic feet of space to each.

If a larger class must be accommodated, the room may be lengthened. A room 25x35 accommodates fifty-four pupils with the above allowance.

The committee of award in the competition for the prize for the best school-house plan (offered by the "Sanitary Engineer") assigned fifteen square feet of floor area as the minimum for each scholar, and the maximum height of rooms as fourteen feet, making a minimum of 210 cubic feet of space with this height, 196 feet with a height of thirteen feet, and so on.

SCHOOL DESKS AND SEATS.

There is difficulty in ascertaining what is wanted in the case of these articles. Some think that ease and a comfortable support for the body constitute the chief object of a seat; they naturally prefer a seat which tilts back a little, or compels the reader to do so. Others wish the habit of sitting upright to be enforced by the construction of the seat and desk; the inferences drawn from this postulate are various, some wishing to do away with chair backs altogether, and others allowing a support only as far up as the middle of the back, while a narrow strip for the spine alone is used in some (foreign) patterns.

The writer would beg to be excused from deciding between these conflicting views. The truth seems to be that it is desirable for children to be taught how to write in an erect attitude, and that certain of the school chairs, with sloped and curved backs, which are now so common in modern schools, do not assist in doing this, but have rather the contrary effect of tempting to slide into a semi-recumbant posture. Such chairs are not the best to write in, however comfortable for reading. Drawing, copying, ciphering, written exercises, writing (spelling) from dictation, writing in copy-books, and the use of dictionaries, all require an upright position. The shape of a Mexican saddle may suggest something when we are trying to fix on the proper school seat. The lower half or third of the trunk is the part which needs firm support, and the lower eight or ten inches of the back-rest is the most important portion.

The desk is used for two very distinct purposes. In *writing* it must be nearly flat, and its edge should project an inch or two over the front edge of the chair (supposed to be of ordinary width), and the height should be convenient, so that the arms may slide easily over it without raising the shoulders. Too great height of the lid is a common fault. In *reading*, however, it is convenient to have the desk lid tilted a good deal to form a suitable book-rest. Desks are now made (very cheap and good) which enable the scholar to make the change at will.

A point much neglected is the height of the seat for little children, who often have to sit with their feet off the floor. Foot-rests are needed in most young classes.

A desk placed too far from the seat compels the pupil to lean the body forward, elbows on the desk, in postures which are apt to become injurious to the symmetry of the body. There should not be room enough to stand between desks and chairs ; on the contrary, as before said, the former should overlap the latter.

The development of near-sight is aided by desks, seats and habits of sitting or writing, which bring the head into a bent position, and the eyes close to the paper. These habits of attitude are extremely common, and nothing is more troublesome than the constant effort to correct them. In fact, nature will assert herself in spite of our efforts, and the best plan may be to cut short the time for writing, or to interrupt it by a minute devoted to calisthenics. In fact, protracted sitting, or confinement to any single posture for more than a few minutes is injurious to young children. The circulation is made stagnant. Odd or distorted attitudes become more so, and the effort to maintain a correct posture becomes irksome.

SITE OF THE SCHOOL-HOUSE.

It may not be amiss to call the attention of trustees to the advantages of choosing wholesome, sunny, sheltered spots of ground for school buildings. It cannot be said that their duty is done when they have provided a good house ; the surroundings also (as far as can be controlled) ought to be such as will conduce to the moral and physical well-being of children. Low grounds, where mists prevail, and high bleak spots are alike to be avoided, if practicable. The science of drainage is now so generally understood that it cannot be necessary to have a "wet cellar," except in rare cases; and in such cases the site should not be used. In damp sites, the flow of underground water toward the cellar may be intercepted by a trench containing drain tile outside the foundation, sunk somewhat lower than the level of the cellar floor; the drain communicates with pipes which leads the water elsewhere. Solid cellar-walls coated outside with coal tar may be used. Good asphalt flooring is desirable; common brick is not only liable to be damp, but often grinds to dust under the feet. A trench cut across the floor and communicating with the outer drains will take off the water under the floor. Such a trench may be filled with common stones and covered over.

In small country schools the practice of raising the school floor some two or three feet above the soil is often followed, and is always to be recommended when no cellar is built. In the wall of the sub-floor space openings should be made which should be left open except in cold weather.

An ample space around the school gives dignity to its effect; and it also insures good light — a point which is one of the most difficult to handle properly in large cities. It seems strange that in towns of a hundred thousand population, or even less, schools built a generation ago should now be so completely shut in by new buildings as to lose more than half their light; but such is the fact in more than one place. It is an inexcusable want of forethought to build with only six or a dozen feet of margin, and with no guarantee that the next lot may not soon be occupied with a high building. Every city hopes to grow; and of late years there is encouraging evidence that cities are beginning to draw the logical inference and to protect their schools from crowding. Another point liable to be overlooked is the prospect of a street becoming a great thoroughfare for business. It is a terrible nuisance to teach in a house near a noisy street in hot weather!

It is undesirable to have the building closely shaded by trees, but a neat arrangement of small trees, shrubs, grass, and even flowers, adds greatly to the respect in which the place is held. Walks may be coated with asphalt or laid with North river flags, for comfort.

SCHOOL WORK.

Those charged with the care of children should bear in mind that, while well-directed study is a positive benefit to health, there are certain ways in which the studies of youth are sometimes injurious.

1. *Amount of Work.*— At present there is a general agreement, or something approaching to it, that thirty hours of study and recitation a week is not far from a correct standard for an average High School pupil. In colleges forty hours are entirely compatible with health. In schools below the grade of High School, five hours a day for five days in the week is a standard, which should be *greatly lessened in the case of the youngest pupils.* Home study, for classes averaging less than twelve years of age, is in many places thought undesirable.

At present, less harm seems to be done by excess of work than by working injudiciously. The reader will doubtless have his own opinion upon the advantages of *competition* as a motive in school, and the possible injuries it may produce.

School examinations affect the pupils more generally; when conducted with severity, and made the test of promotion, they may contain an element of danger; but the most trying thing of all is to crowd them into the very end of a busy spring's work, forcing the severest exertion at a season of general lassitude.

These points are readily understood by experienced teachers, and their enforcement may be left in non-medical hands. At any rate the writer does not offer further discussion of them.

The length of sessions; physical exercise; and recesses, may fall more directly under medical direction. It is quite customary for schools of a high grade to sit five hours continuously, with one or two short recesses. The older the pupils are the better they are suited with this plan; and teachers are almost always pleased with it, as regards their own comfort. It is offered as a suggestion, that, for children under ten years of age, the plan is unsuitable, both as requiring too *much* and too *continuous* application. The long session, in any case, ought to be broken up into sections of not more than about fifty minutes each. At the end of every hour, a break should be made, which after the first and third hours should consist of calisthenics, the pupils of course rising, and the windows being opened as much as the season allows during the exercise. After the second and fourth hours, recesses of ten or twenty minutes, for play and lunch, are desirable. During the latter, no child should be allowed to remain in the room; all should go to a play-room (light, airy and comfortable) or play-ground, under a teacher's charge, while the room is thoroughly aired.

The abolition of recesses has become a popular plan of late. When a school has two daily sessions, it may be an advantage to shorten them in this way — not dispensing, however, with a five minutes' pause in the middle of each session. For little children, frequent recesses and short sessions (three or four hours a day in all) are suitable.

The injurious effects of the use of *tobacco*, and other forms of vicious indulgence, are considerable, and often strike a teacher's eye. The indolence, mental inability and nervous derangement which they cause are known. But there is another cause, much easier to ascertain, and much more remediable, which is perhaps doing more harm than these or than "over-study." I refer to improper habits of diet, which in the case of school-children, include the eating of candy and cake at lunch; neglect to bring lunch for long sessions of five hours; occasionally or frequently omitting breakfast; and drinking immoderately of tea or coffee, sometimes at breakfast, with absolutely no food to accompany it. Would it be believed that an old and prosperous Academy allows (or did lately allow) a vendor of candy and pie to occupy a part of its building for the purpose of selling these articles to the children at lunch? Is it known, or is it even inquired about, how many children rise in the morning after nights of dissipation and poor sleep, and sit at the breakfast table only long enough to swallow their tea — having "no appetite" for food? They go to school, too, with no proper provision; they have money to buy trash, instead of a wholesome lunch; they "have no stomach for the fight" of school work, and their whole behavior shows their unfitness for work. When these habits are connected with a five-hours' session, so that scholars may practically have to fast until three o'clock P. M., the effect upon the health is disastrous. The evil is definite and unquestionable and the attention of school-authorities is earnestly invited to it.— Very few children are likely to be injured by strong liquors during the school age; but a great many are harmed by strong tea and coffee — articles of doubtful use for minors.

It is well to mention the fact that over-work is particularly dangerous at periods of rapid bodily growth; or while the system has only partially recovered from the shock of severe illness; or in children whose nerves are ill-balanced, as in the case of a tendency to chorea (St. Vitus' Dance).

In the same way, over-work must be avoided with especial care at the age of sexual development. This subject is exceedingly important, and has already attracted great attention.

Due credit being given for each of these points, it remains true that young people inflict on themselves, in the pursuit of social amusement and the practice of accomplishments like piano playing, an amount of strain which in many cases is the sole and sufficient cause of break-down. These matters are beyond the teacher's control.

But in one point it seems to the writer that school authorities are not doing their duty, namely, the physical training of young people, especially those of the female sex. Not that school governors or trustees are to blame, but rather that public sentiment is not sufficiently awakened to the need of such training. The first step toward a right training may be taken, however, by any teacher who understands ordinary calisthenics, and can get permission to devote half an hour of solid time two or three times a week to it. The second step *costs money*, and implies the employment of trained instructors, who ought to have good salaries for their laborious profession. It seems as if there were no other remedy for the terrible want of physical exercise and development which is visible in our own cities, especially among girls.

Finally, there is no doubt that many teachers are severelly strained by their work. School boards ought to consider this point in reference both to present programmes, and prospective improvements — the latter often involving increased labor on the part of teachers. Modern methods of teaching involve much more active and energetic work than the old ways. Teachers of music and drawing are liable to be either carried away with enthusiasm beyond the limit of their strength, or else to be fretted and depressed by the constant contact with inartistic natures. In short, the teacher's life is one which is fully exposed to the dangers of overwork, about which so much is said in the case of children.

REPORT UPON THE PUBLIC SCHOOLS OF SARATOGA SPA, N. Y.

[By Richard Prescott, M. E., Sanitary Engineer.]

May 9, 1885.

To the Secretary of the State Board of Health, Albany, N. Y.:

Sir — In accordance with your request, I have inspected the public schools of Saratoga Spa, N. Y., and have the honor to submit the following report on their sanitary condition:

There are nine buildings used for school purposes, being Nos. 1 to 7 inclusive, the High School, and a building used by the junior department of No. 3. Six of these buildings, viz., High School and Nos. 1, 3, 4, 6 and 7 are brick, and the others, Nos. 2 and 5 and the annex to No. 3 are frame structures. The High School and Nos. 1 (in part), 6 and 7 are buildings very well adapted to their use, but the others are deficient in many respects, sanitarily considered, as will be referred to in another place. The inspection of these various school buildings furnished grounds for the following conclusions.

A. Seating Capacity.

Taking as a standard the minimum limit of fifteen square feet floor area per pupil adopted by the *New York Sanitary Engineer* committee of judges on prize school plans, and assuming the number of pupils to be represented by the seating capacity of the rooms, it appears that schools Nos. 1, 3, 4 and 7 are over-crowded. Thus in No. 1, in the B primary, the area is 10.2 square feet; in the A primary, 9.7 square feet; in the C junior, 13.3 square feet; in the B junior, 13.7 square feet; in the A junior 13.3 square feet; and in the grammar, 14.7 square feet. It is only fair to state that considering the number of pupils present at the time of the inspection, or the average number in attendance, or even the maximum of attendance for the year, there was not a single case of overcrowding; nevertheless seats are provided in sufficient numbers to exceed the limit as given above.

B. Lighting.

The total area of window surface for a school-room should be not less than one-fifth the floor area, and would better be considerably in excess of this limit. In the schools and departments under discussion the relative proportions are as follows:

School No. 1	1–20; 1–9; 1–8
School No. 2	1–6; 1–8
School No. 3	1–8; 1–5; 1–9

School No. 4	1–6; 1–7; 1–7
School No. 5	1–12
School No. 6	1–5
School No. 7	1–9; 1–10
High School	1–10
Annex to No. 3	1–4

This is certainly a very unfavorable showing, and the matter is made more serious by the fact that, except in the high school, the windows are too low, that is, do not extend as near to the ceiling as they should. In the beautiful high school, the windows of the main study hall are high enough, but, unfortunately, the architect has seen fit to fill the upper fourth of each window with ornamental stained glass. This is the more astonishing in view of the fact that the building has been erected less than two years.

In most of the schools the pupils are seated so that the light comes from the back and left, or from the back and both sides. In a few, the light comes from the back and right, and in two rooms the pupils face the windows.

C. HEATING.

Nos. 1 (in part), 2, 3, 5, 6 and 7 and the annex to No. 3 are heated by ordinary stoves which are placed at distances from nearest seats varying from two feet in No. 3, grammar, to five feet in No. 3, annex. In two cases only the stoves were provided with screens to shield the pupils in the vicinity.

No. 1 (in part) is heated by Ruttan stove-furnaces (see paragraph on ventilation).

No. 4 and the high school are heated by steam; No. 4 having direct radiation throughout and the high school a combination of direct and indirect. Several of the rooms in No. 4 have decidedly more radiating surface than is required. The arrangement, too, is open to criticism, since in several instances (in No. 4) individual coils are placed partly in one room and partly in another.

D. VENTILATION.

With few exceptions, the schools inspected are without means for ventilation, other than opening doors and windows. Nos. 1 (in part), 2, 3 (and annex), and 5 are without any ventilating apparatus; No. 4 has a number — five or six to each room — of six inch circular registers at top and bottom, opening, probably, into flues, the upper terminal of which could not be found, although they may probably open into the roof space; at all events, they are entirely useless and no attention is paid to them. Even if there were good flues with a good draught, the registers are absurdly small. Nos. 6 and 7 are provided with registers six inches by seven inches, at top and bottom opening into brick flues, four inches by sixteen inches, that communicate with the roof space. In No. 6 there are two six inch openings in one gable, while in No. 7 there is no opening. In both schools, the upper registers have no cords for opening and shutting, and, as a matter of fact, are never touched. The lower registers are "fixed" in the morning by the janitors and are not intentionally disturbed. Certainly it could make but little difference with the air in these schools whether the registers were open or shut.

Three rooms in No. 1 are heated and ventilated on the Ruttan system. In each a hot air furnace supplies fresh air drawn from out of doors, while through a register in the floor the foul air is drawn into a flue heated by the furnace smoke pipe. In two of the rooms the foul air register is located at the opposite end of the room to that in which the furnace is situated, and opens into the general space beneath the floor — these rooms being on first or ground floor — and this space communicates with the ventilating chimney. For some inexplicable reason, openings have been made through the walls, connecting these sub-spaces with the outer air, thus destroying the ventilating process and seriously diminishing the heating efficiency of the apparatus. The location of the foul air registers is faulty; they should be close to the furnace in order to realize the greatest benefit from the system. In the third room — a second-story room — the system works well and is deficient in size only.

In the high school, each room has one or more indirect heating stacks supplying fresh warm air, and a number of foul air registers, ten inches by fourteen inches, at top and bottom, opening into narrow brick flues, some of which communicate with a chimney fifteen inches by twenty-six inches, and the rest with the roof space. In the cresting on the ridge, a number of small openings give egress to the foul air. This system of ventilation is extremely imperfect, and in certain cases of calm weather must become nearly inoperative. The supply part of the system is all right — could not be improved, but the equally important part of the removal of vitiated air is at fault. In the first place, the flues are in outside walls and are not heated; this of itself is a serious obstacle, since the column of air in a flue must be warm before it will rise; and in the second place, the general roof space acts as a partial cover to the flues, tending to diminish the velocity of the rising column. In two rooms the indirect stacks are supplemented by "Jackson" grates, which is, theoretically at any rate, a good plan. The grates were not in operation at the time of the inspection. A remarkable feature in the two rooms just referred to is that the registers to the indirect stacks are in the floor *under the settees* and consequently more or less covered by the clothing and persons of the pupils.

E. WATER CLOSETS AND PRIVIES.

The high school is provided with automatic flushing hoppers, each one having its one independent cistern, and all are in most excellent condition. I have never seen in schools elsewhere more satisfactory lavatory apparatus environment than in this Saratoga High School, the concrete floors, the partitions, walls, seats, all perfectly clean and neat, the apparatus all really working, the rooms spacious, light and well ventilated — altogether I consider it a model establishment.

All the other schools are provided with privies, and all in an abominable condition. In most cases the girls' privies are clean as far as the wood work is concerned, but the boys' privies are foul. All have shallow vaults and are usually furnished with a draw box. The boxes and vaults are cleaned at frequent intervals, and chloride of lime is used with no sparing hand, but a privy is a privy still and nothing more. In two instances the privies are very close to the schools; at No. 7, for instance, it is but nine feet six inches from the part of the building used by the junior department and fully commanded by the windows of this room.

Such is the condition of the Saratoga schools with reference to the points named; and it remains for me to suggest for your consideration such improvements as the circumstances indicate.

1. It will be well to reduce the number of seats in the different rooms until there shall be not less than fifteen square feet floor surface for each seat. This will be accomplished in some cases by exchanging the double seats for single ones.

2. The small, old fashioned windows in some of the schools should be replaced with longer ones extending as close to the ceiling as possible. I strongly urge the propriety of removing the stained glass from the high school windows and setting plain glass in its place. The room may not be as beautiful, but the change will be very beneficial to the pupils.

In the two rooms where the pupils face the windows the seats should be changed without delay.

3. The heating and ventilating should be parts of the same system, and my recommendations will accordingly be based on that law. In No. 1, chart and C primary rooms, where the Ruttan system is used, I advise changing the position of the foul air registers, and opening them directly into the ventilating chimney at the same time cutting off all communication between the chimney and the sub-space.

In all those school-rooms using stoves, I recommend the employment of portable furnaces of suitable sizes, taking fresh air from out of doors, while the removal of the vitiated air would be accomplished by running the stove pipe from the furnace up through a ventilating shaft formed of wood and lined with tin. Let there be an Emerson cowl at top of shaft, and let the smoke pipe extend through this cowl and be itself fitted with a small Emerson or with a "Globe" ventilator.

The opening from the room into this shaft should be at the floor level and as near the furnace as possible. The area of the shaft would depend upon its height and the number of pupils in the room. The shafts in schools having more than one room may be clustered and the partitions made of tin alone. If it should be deemed unadvisable by the school authorities to carry out this plan, I suggest that the stoves be jacketed with galvanized iron, leaving a clear space of about six inches, and let the enclosed space be connected with the outer air. This substitute will not give efficient ventilation, of course, but it will introduce fresh air, and will make the distribution of heat more nearly uniform.

The problem of ventilating school No. 4 is decidedly more difficult of solution than is presented by any other school in the place, for the building is already piped for direct radiation, is of very large lateral dimensions and the three stories are entirely unlike in plan. I submit the following plan of treatment as one that will certainly be successful, although rather expensive.

Let there be erected at each rear corner of the building a brick shaft, one to serve as fresh air shaft, and the other as foul air shaft. Carry the boiler smoke pipe up through the foul air shaft, which is to be capped with an Emerson cowl. The fresh air shaft is to be capped with an intake cowl, and will communicate by branch ducts of tin or galvanized iron, running through cellar, with the indirect stacks. Let there be a small indirect stack for each study room and a tin hot-air pipe extending from the stack to the room. Let there be also a tin pipe extending down from each study room and communicating finally with the foul air shaft. In connection with these changes, the amount of direct radiation in the rooms thus ventilated should be reduced proportionately to the heat introduced with the fresh air.

In the case of the high school, the flues in the walls that now open into the general roof space should be connected at top with two or more flues extending through roof, heated by steam pipes and covered with Emerson cowls.

4. In the matter of water-closets and privies radical and sweeping changes are imperatively demanded. I believe that the privy is an institution nowhere else as strongly to be condemned as when forming an adjunct to a school house, and it is an abomination in any place.

In the basement of school No. 4 there are full facilities for setting up lavatories such as are used in the high school. I strongly advise that these lavatories be duplicated in No. 4, or else that automatic latrines be used. The other schools may be divided into two classes; those located near public water supply and sewers and those not thus situated. For the first class I advise latrines with automatic flushing attachment, placed in an inclosure warmed by a stove.

The present privy inclosures may in most cases be adapted to the new plan with but trifling alterations. The heat from the stove pipe may be used to ventilate the inclosures. For the second class, I recommend a modification of the common dry earth closet as follows: Let there be a capacious box, or bin, attached to the privy building to contain dry coal ashes, and let there be a removal box under the seats. Then let it be the imperative duty of the janitor, not less than twice daily, to cover all excrement with a layer of ashes at least two or three inches in depth, taking care to keep the contents of the box approximately level.

In closing this report I venture to suggest that the Board of Public Instruction would be benefited as would also the teachers and pupils of the schools, if the teachers had brought directly to their attention the general physical principles governing the matter of ventilation.

I desire to express my appreciation of the kindness of Messrs. Cohen, Eddy and Olmstead, school commissioners, who, in the absence of the superintendent of schools, accompanied me to the various schools and rendered much valuable assistance.

All of which is respectfully submitted,

RICHARD PRESCOTT,
Sanitary Engineer.

SUGGESTIONS BY DR. ALFRED L. CARROLL.

Assuming that the number of seats in a school-room represents the number of pupils whom it is intended to admit, the provision for cubic space in all the schools described by Mr. Prescott is insufficient, and in some of them dangerously so. The minimum of fifteen square feet of floor-space, with a ceiling-height of even twelve feet, would allow but 180 cubic feet for each inmate, and it is practically impossible by any ordinary methods of ventilation to maintain reasonable purity of air in a space of such dimensions. The old theory that children needed less pure air than adults is now generally abandoned, and, even where rooms are occupied for only a few hours, at least 2,500 cubic feet of air per hour should be supplied for each person. Most modern sanitarians advise that 250 cubic feet should be the minimum allotment per capita in schools, and this would demand an entire change of the air of the room ten times in each hour to satisfy the most moderate requirements of healthy respiration — a demand which no common mechanical device can fulfill in cold weather. It is thus evident that, under the most favorable circumstances, the atmosphere of school-rooms is less oxygenated than would be permissible for continuous occupation, and for this reason exceptional care is needed to preserve purity of the environment and to prevent access of extraneous contamination from faulty conservancy-methods or other sources of pollution of soil or air. But in most of the schools mentioned in Mr. Prescott's report there is absolutely no provision for change of air except when the warm season may permit aeration by open windows and doors, and in the few instances where artificial ventilating appliances have been introduced, they are either inoperative or, at best, inadequate. To accomplish the end of indoor ventilation it is necessary not only to furnish means for the admission of a sufficient quantity of pure air at a proper temperature, but also for the removal of a corresponding amount of air fouled by respiration and organic effluvia; indeed, the extraction of the foul air is the most important part of the problem to be solved in the majority of instances; and under any system adopted the outlets should equal the inlets in their combined area, which, supposing a forced movement of the air at the rate of from six to eight linear feet per second, should average a square foot for every eight or twelve inmates. It is true that few, even of the best constructed schools, allow more than half of this air supply; but it is nevertheless desirable that the above-named desiderata in respect of cubic space and fresh air supply should be aimed at in all future construction or improvements. It is, moreover, to be borne in mind that the incoming air must be distributed throughout the room so as neither to leave stagnant places, on the one hand, nor, on the other, to create too great variations of the temperature in different parts, which should be maintained between sixty-six and seventy degrees Fahrenheit.

A "rough-and-ready" mode of testing the impurity of the atmosphere of a room arising from respiration, and one which might easily and advantageously be employed by teachers from time to time, especially toward the close of school-hours, rests on the deposit caused by carbonic acid in lime-water. Not that carbonic acid in itself is dangerous in even larger quantity than is present in an ill-ventilated room, but that its presence, from respiration, is indicative of the corresponding volatilized organic emanations from the body which are directly injurious. Let a transparent bottle of about ten and one-half ounce capacity, which can be procured from almost any apothecary, be filled with the air of the room (this may be effected by first filling it with water and emptying within the room) introduce a tablespoonful of clear lime-water and shake it for a few seconds; if the lime-water be rendered turbid, the atmosphere may be assumed to be unfit for healthy breathing. This method is, of course, not scientifically accurate but it possesses the merit of cheapness and simplicity.

The mechanical means of carrying out the general principles of ventilation are various, and whilst the particular plans suggested by Mr. Prescott would probably be well adapted to the needs of the buildings described, the choice is by no means to be limited to one system, but in all such cases the commissioners or trustees of schools and other public buildings, knowing the ends to be attained, should be guided by the practical advice of a competent sanitary engineer in the adoption of a suitable system for their attainment, each problem having to be considered in relation to its own distinctive circumstances.

As regards lighting, Mr. Prescott's criticisms and recommendations deserve approval. It is desirable that the conjoined area of windows should be not less than one-fourth of the floor-space, and that, as far as practicable, the light should come from the left and above. At all events, no desks should be placed facing the windows, and cross-lights should be avoided. If any alteration be made in the seating arrangements, it would be advisable to provide for an adaptation of the relative heights of chairs and desks to the size of the pupils. Seats which can be raised or lowered may be procured at very reasonable cost.

Mr. Prescott's suggestions concerning the conservancy-systems seem to be the simplest and least expensive that could be devised for their purpose, and there can be no doubt that the privies described by him should be immediately replaced by safe and more civilized appliances.

STATE OF NEW YORK.

No. 84.

IN ASSEMBLY,

March 19, 1886.

REPORT

OF SECRETARY OF STATE ON STATISTICS OF CRIME IN THE STATE OF NEW YORK.

STATE OF NEW YORK:

Office of the Secretary of State,
Albany, *March* 18, 1886.

To the Honorable the Legislature :

I have the honor to transmit herewith a report on statistics of crime in this State, prepared from reports of clerks of courts and sheriffs, as received by my predecessor in office for the year ending October 31, 1885, pursuant to chapter 604, Laws of 1867, and section 10 of the Code of Criminal Procedure.

I am very respectfully yours,

FREDERICK COOK,

Secretary of State.

REPORT.

STATE OF NEW YORK :

OFFICE OF THE SECRETARY OF STATE,
ALBANY, *March* 18, 1886.

To the Legislature :

The Secretary of State, in compliance with title 10 of the Code of Criminal Procedure, respectfully presents the following report on the statistics of crime in the State for the year ending October 31, 1885.

SYNOPSIS.

Whole number of convictions reported by county clerks in courts of record	2,491
Whole number of convictions reported by county clerks in courts of record, in last report	2,315
Increase	176

The convictions thus reported were as follows :

Offenses against the person	456
Offenses against the person, last report	386
Increase	70
Offenses against property with violence	637
Offenses against property with violence, last report	535
Increase	102
Offenses against property without violence	1,123
Offenses against property without violence, last report	1,097
Increase	26
Offenses against currency	41
Offenses against currency, last report	41
Offenses not included in foregoing	234
Gffenses not included in foregoing, last report	256
Decrease	22

Females convicted in courts of record	191
Females convicted in courts of record, last report	117
Increase	74

Convictions in courts of record reported by county clerks,	2,491
Convictions in courts of record reported by sheriffs	2,689
Excess reported by sheriffs	198

SPECIAL SESSIONS.

Convictions reported by county clerks	44,696
Convictions reported by county clerks, last report	21,996
Increase	22,700

SHERIFFS' REPORT OF SPECIAL SESSIONS IN CITIES.

Convictions	80,565
Convictions, last report	73,738
Increase	6,827

Females convicted	23,827
Females convicted, last report	21,183
Increase	2,644

The following is a synopsis of the tabular statements annexed to this report:

Table A gives the number of convictions in courts of record during the year ending October 31, 1885, as reported by clerks of counties and criminal courts.

Table B is an abstract of Table A, giving in a condensed form the whole number of convictions in courts of record for each species of crime, specifying the county, and the number of convictions in each county.

Table C exhibits the proportion of males to temales convicted in courts of record, with a classification of their offenses.

Table D is a statement of the number of convictions in courts of record, from the year 1830 to and including the year ending October 31, 1885.

Table E gives the ages, social relations, nativity, etc., of those convicted in courts of record, as reported by sheriffs.

Table F is a condensed statement of the details given in Table E.

Table G gives the occupation of those convicted in courts of record, as reported by sheriffs.

Table H is an abstract of the returns of clerks of criminal courts, giving the number of indictments tried in each county at the several terms of criminal courts, the number of convictions, the number acquitted, the number convicted on the plea of guilty, and the number of persons indicted and discharged without trial.

Table I is an abstract of Table H.

Table K is an abstract of the returns by county clerks of certificates of convictions in courts of special sessions, filed in the respective county clerks' offices during the year.

Table L is an abstract of Table K.

Table M is an abstract of the returns of the sheriff of the counties of Albany, Broome, Cayuga, Chautauqua, Chemung, Columbia, Erie, Kings, Monroe, New York, Niagara, Oneida, Onondaga, Orange, Oswego, Queens, Rensselaer, St. Lawrence and Ulster, as to convictions in courts of special sessions in the cities of Albany, Binghamton, Auburn, Dunkirk, Elmira, Hudson, Buffalo, Brooklyn, Rochester, New York, Lockport, Utica, Rome, Syracuse, Newburgh, Oswego, Long Island City, Troy, Ogdensburg and Kingston.

Table N is an abstract of Table M.

SYNOPSIS OF REPORT ON PARDONS, ETC.

Table A gives the total number of pardons, conditional and unconditional, commutations of sentences and restoration to the rights of citizenship, by the Governors of this State, since the year 1846.

Table B shows the names of the persons pardoned in the year 1885, the counties where convicted, crimes, sentences and dates of pardons.

Table C shows the sentences abridged or commuted in the year 1885, with the names of the convicts.

Table D gives the names of the persons restored to the rights of citizenship in the year 1885, the counties where convicted, crimes, sentences and dates of restoration.

CONCLUSIONS.

The county clerks of the counties of Allegany, Clinton, Fulton Greene, Lewis, Livingston, Oswego, Richmond, Rockland, St. Lawrence, Seneca, Tompkins, Washington and Wayne have failed to report as to convictions in courts of record, and the county clerks of the counties of Albany, Allegany, Clinton, Greene, Hamilton, Lewis, Livingston, Richmond, Rockland and Sullivan have failed to report as to convictions in courts of record in their respective counties. It will thus be seen that seven county clerks have failed to report both as to courts of record and special sessions, and that ten county clerks have omitted to make one of the two reports as to statistics of crime, required to be made to this office.

The sheriffs of Montgomery, Albany, Dutchess, Jefferson, Schenectady and Westchester counties have failed to report convictions in courts of special sessions in the cities of Amsterdam, Cohoes, Poughkeepsie, Watertown, Schenectady and Yonkers, and from the sheriffs of Allegany, Clinton, Fulton, Hamilton, Lewis, Livingston, Oswego, Rockland, Seneca and Washington counties, no reports of convictions in courts of record were received.

When the sheriffs of sixteen counties, and the county clerks of seventeen counties, have, in the whole or in part, failed to make their report as to convictions required by law, it is not surprising that the report of the Secretary of State should be incomplete and unsatisfactory.

It will be seen by comparison of this report with the report of last year, that the number of persons reported by county clerks as convicted in courts of special sessions, of misdemeanors and petty offenses, has more than doubled — the increase being 22,700 — which increase, however, is probably largely attributable, either to incomplete reports by county clerks last year, or to more full and complete reports from committing magistrates to county clerks, and by them transmitted, during the year recently closed.

The increase in number of convictions in courts of record, as reported over the preceding year, is, however, comparatively slight, being only 176.

The reports by sheriffs as to convictions in special sessions in cities also show a marked increase in number of convictions for minor offenses in cities, over the number reported a year ago, reaching 6,827.

The aggregate number of convictions for all offenses, reported during the year ending October 31, 1885, is as follows:

Convictions in courts of record (county clerks' reports)....	2,491
Convictions in special sessions (county clerks' reports)....	44,696
Convictions in special sessions in cities (sheriffs' reports)..	80,565
Total..	127,752

With a number of convictions so large, and increasing from year to year, involving a very large expenditure in the administration of justice, to taxable persons and property in this State, it would seem that accurate books of record in reference to crime and criminals should be kept in a business-like manner in the several counties of the State, and that full and accurate statistics of crime should be furnished for publication; the Secretary of State being the only officer of the State government to whom any such statistics, however imperfect and incomplete, are furnished, and who is charged with the duty of reporting the same in condensed form to the Legislature.

The aggregate number of persons convicted, for the year ending October 31, 1885 (127,752), is nearly equal to the number of persons relieved under the laws relating to pauperism, during substantially the same period, as reported by the undersigned to the Legislature at its present session (132,658).

While the expense to the several counties, and to the State, on account of crime is not reported to this office, it is safe to assume that it has equaled, if indeed it did not far exceed, the cost of pauperism for the year ending with this report ($2,736,402).

The present value of permanent investment of the several counties of this State, for poor-house establishments, as reported to this office last year, amounted to $4,060,163; to this is to be added the investment by counties and the State in establishments for the humane care of certain pauper unfortunates in infirmaries, homes and hospitals, reaching a large additional figure, perhaps equally as large as the foregoing.

The investment in penal institutions, by the several counties of the State, for jails, houses of detention and correction, and penitentiaries, and of the State for its State prisons and reformatories, if reported, would doubtless form an aggregate fully as large as that of the several counties, and of the State on account of pauperism.

These are startling facts and figures, which deserve the serious consideration of the student in the causes of crime and pauperism, the philanthropist and the tax-payer.

The whole subject of perfecting the system of collection of statistics of crime by town, city and county officials, with the cost incurred on account of crime and criminals, as also the return thereof to this office, is respectfully commended to your favorable consideration.

I am yours very respectfully,

FREDERICK COOK,

Secretary of State.

DOCUMENTS

ACCOMPANYING THE REPORT OF THE SECRETARY OF STATE ON CRIMINAL STATISTICS.

TABLE A.

Gives the number of convictions in courts of record annexed during the year 1885, *as reported by clerks of counties and criminal courts.*

COUNTY OF ALBANY.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1884. November	1	Forgery	State prison 6 years.
		1	Forgery	Fine.
		1	Rape	State prison 15 years.
		1	Manslaughter	Penitentiary 3 years.
		1	Grand larceny	State prison 10 years.
		1	Grand larceny	State prison 5 years.
		2	Grand larceny	State prison 3 years.
		1	Grand larceny	State reformatory.
		1	Grand larceny	House of refuge.
		1	Assault	State prison 4 years.
		1	Assault	State prison 3 years.
		3	Assault	Penitentiary 6 mos.
		1	Burglary	State prison 7 years.
		1	Burglary	State reformatory
		1	Petit larceny	Fine.
Oyer & Ter.	December	1	Petit larceny	Penitentiary 6 mos.
		1	Grand larceny	Penitentiary 2 years.
		1	Burglary	Penitentiary 2 years.
Sessions	1885. February	2	Burglary	Penitentiary 10 years.
		3	Burglary	Penitentiary 5 years.
		1	Receiving stolen goods	Penitentiary 3 mos.
		1	Larceny from person	State reformatory.
		1	Assault	State prison 1 year.
Oyer & Ter.	April	1	Grand larceny	Penitentiary 2 years 6 mos.

COUNTY OF BROOME.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1884. November	1	Assault	State prison 2 years 5 mos.
Oyer & Ter.	December	1	Murder	Death.
Sessions	1885. September	1	Burglary	State prison 2 years.
		1	Burglary	State prison 1 year 6 mos.
		1	Grand larceny	State prison 3 years.
		2	Malicious mischief	Fine.
		1	Violating excise law	Fine.

Table A.—(Continued).

COUNTY OF CATTARAUGUS.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1885. February	1	Burglary	State prison 3 years.
		1	Burglary	State prison 6 years.
		1	Burglary	State prison 2 years 6 mos.
		1	Grand larceny	State prison 2 years 6 mos.
		2	Violation excise law	Fine.
Oyer & Ter.	June	1	Murder, 2d degree	State prison for life.
		1	Burglary	House of refuge.
Sessions	October	1	Burglary	State prison 1 year 3 mos.
		1	Burglary	Penitentiary 1 year.
		3	Assault	Fine.
		1	Assault	State prison 2 years 6 mos.
		3	Assault	State prison 2 years.
COUNTY OF CAYUGA.				
Sessions	1884. December	1	Assault	Sentence suspended.
		1	Assault and rape	
		2	Assault	State prison 2 years.
		2	Aiding an escape	State prison 5 years.
		1	Assault	Jail 50 days.
		1	Assault	Fine.
		2	Burglary	State prison 1 year 6 mos.
		2	Burglary	Penitentiary 1 year.
		2	Grand larceny	Penitentiary 1 year.
		2	Grand larceny	State reformatory.
		1	Petit larceny	Jail 30 days.
		1	Burglary	Jail 1 month.
Oyer & Ter.	1885. January	1	Assault	State prison 2 years.
		3	Burglary	State reformatory.
		1	Burglary	House of refuge.
		1	Grand larceny	State reformatory.
Sessions	February	1	Abortion	State prison 3 years.
		1	Forgery	State prison 1 year 6 mos.
		2	Petit larceny	Jail 50 days.
Oyer & Ter.	May	1	Forgery	Penitentiary 5 years.
		2	Violation excise law	Fine.
Sessions	May	2	Burglary	Jail 30 days.
		1	Assault	State prison 3 years 6 mos.
		2	Assault	Fine.
Sessions	September.	2	Petit larceny	Jail 3 months.
Oyer & Ter.	October	1	Malicious mischief	Fine.
COUNTY OF CHAUTAUQUA.				
Oyer & Ter.	1885. October	1	Bigamy	Penitentiary 1 year.
		1	Assault	State reformatory.
		2	Burglary	State reformatory.
		1	Burglary	House of refuge.
		1	Burglary	State prison 5 years.
		1	Selling obscene literature	Penitentiary 6 months.
COUNTY OF CHEMUNG.				
Oyer & Ter.	1885. January	1	Grand larceny	State prison 3 years.
COUNTY OF CHENANGO.				
Sessions	1885. February	1	Excluding colored persons from skating rink	Fine.
Oyer & Ter.	May	1	Assault	State prison 10 years.
Sessions	October	1	Manslaughter	Penitentiary 1 year.
		2	Petit larceny	Jail 6 months.
		1	Violation excise law	Fine.
		1	Violation excise law	Jail.
COUNTY OF COLUMBIA.				
Sessions	1884. November	1	Robbery	State prison 12 years.

Table A.—(Continued).

COUNTY OF CORTLAND.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions.....	1885. March.. ...	1	Attempted escape..........	State prison 1 year 6 mos.
		1	Burglary.	State prison 2 years.
		1	Grand larceny...	State reformatory.
		1	Intoxication....	Fine.
Oyer & Ter..	June........	1	Intoxication................	Jail.
COUNTY OF DELAWARE.				
Sessions.....	1885. December..	1	Assault	Fine.
		1	Forgery......................	State prison 3 years.
		1	Petit larceny....	Jail 1 month.
Oyer & Ter..	February...	1	Burglary.	State reformatory.
Sessions.....	March	1	Violating health law........	Jail 59 days.
Sessions.....	August.....	1	Felony...........	Penitentiary 6 mos.
		1	Misdemeanor.........	Jail 20 days.
		1	Petit larceny................	Penitentiary 6 mos.
COUNTY OF DUTCHESS.				
Oyer & Ter..	1884. December..	1	Burglary.	State prison 1 year 6 mos.
		1	Manslaughter	State prison 5 years 6 mos.
		1	Grand larceny..	State prison 3 years 6 mos.
		1	Assault	State prison 10 years.
		1	Murder 2d degree...........	State prison life.
Sessions. ...	1885. January....	1	Assault	Fine.
		1	Assault	Penitentiary 9 mos.
		1	Burglary.	State prison 3 years 3 mos.
Oyer & Ter..	June	1	Indecent exposure of person	Jail 20 days
		1	Manslaughter	State prison 15 years.
		1	Forgery......................	State prison 2 years 6 mos.
		1	Forgery..	Penitentiary 1 year
		1	Petit larceny.....	House of refuge.
Sessions.....	August.....	1	Assault	Penitentiary 6 mos.
		1	Petit larceny	Penitentiary 1 year.
		1	Burglary.	State prison 4 years.
		2	Burglary....................	State prison 1 year.
Oyer & Ter..	March......	1	Assault	Jail 50 days.
COUNTY OF ERIE.				
Oyer & Ter..	1884. November..	1	Manslaughter................	State prison 9 years.
Oyer & Ter..	December..	1	Murder	Death.
		1	Manslaughter	State prison 15 years 6 mos.
Oyer & Ter..	1885. February...	1	Murder	State prison for life.
COUNTY OF ESSEX.				
Oyer & Ter..	1884. December..	2	Riot	Fine.
Sessions.....	1885 January....	1	Assault......................	Fine.
		1	Grand larceny.	State prison 2 years.
		1	Violation game law....	Fine.
		14	Violation excise law..... ...	Fine.
COUNTY OF FRANKLIN.				
Sessions.....	1884. December..	2	Violation game law..... ...	Fine.
COUNTY OF GENESEE.				
Oyer & Ter..	1884. November..	1	Grand larceny....	State reformatory.
Oyer & Ter..	1885. March	1	Grand larceny...	State reformatory.
Sessions.....	April	1	Abandonment	Penitentiary 2 years.
Oyer & Ter..	June..... ..	1	Burglary...	State prison 5 years.

Table A. — County of Genesee — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Oyer & Ter.	1885. June	1	Burglary	State prison 4 years.
		1	Burglary	Penitentiary 1 year.
		1	Carry'g concealed weapons.	State reformatory 1 year.
		1	Burglary	State prison 2 years.
		1	Burglary	State prison 2 years.

COUNTY OF HERKIMER.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1884. December	1	Assault	Fine.
		1	Assault	House of refuge.
		1	Assault	Penitentiary 2 years.
		1	Assault	Fine.
		1	Grand larceny	State prison 2 years 6 mos.
		1	Petit larceny	Jail 3 months.
		1	Bigamy	State prison 4 years 6 mos.

COUNTY OF JEFFERSON.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Oyer & Ter.	1884. December	1	Burglary	State prison 10 years.
		1	Burglary	State prison 3 years.
		1	Grand larceny	State prison 7 years.
		1	Grand larceny	State prison 3 years.
		1	Grand larceny	State reformatory.
Sessions	1885. February	1	Assault	Fine.
		2	Violation excise law	Fine.
Oyer & Ter.	April	1	Grand larceny	State reformatory.
		1	Felony	State prison.
		1	Petit larceny	Penitentiary 9 months.
Sessions	April	1	Violation excise law	Fine.
Sessions	September	1	Violation excise law	Fine.
		1	Arson	State prison 10 years.
		1	Petit larceny	Penitentiary 2 years.
		1	False pretenses	State prison 2 years.
		1	Assault	State prison 12 years.
		3	Burglary	State prison 2 years.

COUNTY OF KINGS.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions.	1884. November	2	Burglary	Penitentiary 1 year.
		1	Burglary	Penitentiary 5 years.
		1	Burglary	Penitentiary 3 years.
		1	Buggery	Penitentiary 3 years 6 mos.
		1	Assault	State reformatory.
		1	Grand larceny	Penitentiary 2 years.
		1	Attempted grand larceny	Penitentiary 2 years 6 mos.
		1	Robbery	State prison 10 years.
Sessions.	December	1	Assault	Penitentiary 5 years.
		4	Assault	Penitentiary 1 year.
		2	Assault	Jail 29 days.
		1	Assault	Penitentiary 2 months.
		1	Assault	Jail 20 days.
		1	Assault	Fine.
		1	Burglary	Penitentiary 6 years 6 mos.
		1	Burglary	Penitentiary 4 years 6 mos.
		1	Burglary	Penitentiary 3 years 6 mos.
		1	Burglary	Penitentiary 2 years 6 mos.
		1	Burglary	Penitentiary 2 years.
		6	Attempted burglary	Penitentiary 2 years 6 mos.
		2	Attempted burglary	Penitentiary 1 year 3 mos.
		1	Attempted burglary	Penitentiary 11 months.
		1	Attempted burglary	Penitentiary 1 year.
		2	Attempted burglary	State reformatory.
		3	Grand larceny	Penitentiary 2 years.
		2	Attempted grand larceny	State reformatory.
		1	Attempted grand larceny	Jail 25 days.
		1	Attempted grand larceny	Penitentiary 2 years.
		1	Attempted grand larceny	Penitentiary 1 year.
		1	Manslaughter	State prison 15 years.

Table A. — County of Kings — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1884. December	2	Petit larceny	Penitentiary 3 months.
		1	Robbery	Penitentiary 7 years 6 mos.
		1	Robbery	Penitentiary 6 years 6 mos.
		1	Robbery	Penitentiary 2 years 6 mos.
		1	Crime against nature	State reformatory.
		1	Bigamy	Penitentiary 3 years.
		1	Attempted suicide	Fine.
		1	Indecent exposure	Jail 29 days.
		1	Disorderly house	Penitentiary 2 months.
		1	Disorderly house	Jail 25 days.
		1	Indecent language	Penitentiary 3 months.
Sessions	1885. January	1	Petit larceny	Penitentiary 6 months.
		1	Assault	Fine.
		1	Assault	Penitentiary 1 year.
		1	Assault	Jail 20 days.
		1	Burglary	Penitentiary 5 years.
		4	Attempted burglary	Penitentiary 2 years 6 mos.
		2	Attempted burglary	Penitentiary 2 years.
		1	Attempted burglary	Penitentiary 1 year 3 mos.
		1	Attempted burglary	Penitentiary 1 year.
		1	Attempted burglary	Penitentiary 6 months.
		1	Bigamy	Penitentiary 1 year.
		2	Indecent exposure	Penitentiary 1 year.
		3	Attempted grand larceny	State reformatory.
		2	Attempted grand larceny	Penitentiary 5 years.
		1	Attempted grand larceny	Penitentiary 2 years 6 mos.
		1	Attempted grand larceny	Penitentiary 2 years.
		1	Attempted grand larceny	Penitentiary 1 year.
		1	Attempted grand larceny	Penitentiary 6 months.
		1	Attempted grand larceny	Penitentiary 2 months.
Sessions	February	1	Assault	Penitentiary 6 years.
		1	Assault	Penitentiary 5 years.
		1	Assault	Penitentiary 2 years 6 mos.
		1	Assault	Penitentiary 9 months.
		1	Assault	Penitentiary 3 months.
		2	Assault	Penitentiary 2 months.
		2	Burglary	Penitentiary 5 years.
		1	Burglary	Penitentiary 3 years 6 mos.
		2	Burglary	Penitentiary 2 years 6 mos.
		1	Attempted burglary	Penitentiary 1 year.
		1	Attempted burglary	State reformatory.
		1	Grand larceny	Penitentiary 5 years.
		1	Grand larceny	Penitentiary 3 years 6 mos.
		1	Grand larceny	Penitentiary 2 years 6 mos.
		2	Grand larceny	Penitentiary 2 years.
		2	Attempted grand larceny	State reformatory.
		1	Obscene exhibition	Penitentiary 6 months.
Sessions	March	1	Forgery	Penitentiary 3 years 6 mos.
		1	Cruelty to children	Penitentiary 1 year.
		1	Gambling	Jail 20 days and fine.
		1	Rape	Penitentiary 10 years.
		2	Burglary	Penitentiary 2 years 6 mos.
		1	Attempted burglary	State reformatory.
		1	Bigamy	Penitentiary 2 years 3 mos.
		1	Grand larceny	Penitentiary 4 years 6 mos.
		3	Grand larceny	Penitentiary 2 years.
		1	Grand larceny	Jail 20 days.
		1	Grand larceny	State reformatory.
		1	Assault	Penitentiary 8 months.
		1	Assault	Jail 20 days and fine.
		1	Illegal use of dwelling	Penitentiary 3 mos. & fine.
		1	Illegal use of dwelling	Penitentiary 2 mos. & fine.
		2	Keeping disorderly house	Penitentiary 6 months.
		1	Malicious mischief	Penitentiary 6 months.
		1	Malicious mischief	Penitentiary 2 months.
Sessions	April	1	Grand larceny	Jail 20 days.

Table A. — County of Kings —(Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
	1885.			
Sessions	April	2	Attempted burglary	Penitentiary 3 mos.
		1	Attempted burglary	House of refuge.
		1	Attempted burglary	State reformatory.
Sessions	May	1	Attempted burglary	State reformatory.
		1	Attempted burglary	Penitentiary 2 years 6 mos.
		3	Attempted burglary	Penitentiary 2 years.
		1	Attempted burglary	State reformatory.
		1	Burglary	Penitentiary 6 years 6 mos.
		1	Burglary	Penitentiary 4 years 6 mos.
		2	Burglary	Penitentiary 3 years 6 mos.
		1	Attempted burglary	Penitentiary 1 year 6 mos.
		1	Attempted burglary	Penitentiary 1 year 3 mos.
		1	Burglary	Penitentiary 1 year 3 mos.
		1	Receiving stolen goods	Penitentiary 5 years.
		1	Receiving stolen goods	Penitentiary 2 years 6 mos.
		1	Receiving stolen goods	Penitentiary 9 mos
		1	Receiving stolen goods	State reformatory.
		1	Rape	State reformatory.
		2	Grand larceny	Penitentiary 5 years.
		1	Grand larceny	Penitentiary 2 years.
		1	Grand larceny	Penitentiary 1 year.
		1	Indecent eqposure of person	Penitentiary 1 year.
		1	Perjury	Penitentiary 2 years.
		1	Forgery	Jail 20 days.
		1	Assault	Penitentiary 2 years 6 mos.
		2	Assault	Penitentiary I year.
		1	Assault	Penitentiary 3 mos.
Sessions	June	2	Grand larceny	Penitentiary 5 years.
		1	Grand larceny	Penitentiary 2 years 6 mos.
		1	Grand larceny	State reformatory.
		1	Attempted grand larceny	State reformatory.
		1	Grand larceny	Penitentiary 9 mos
		1	Grand larceny	State prison 4 years 6 mos.
		1	Grand larceny	State prison 3 years 6 mos.
		1	Assault	Penitentiary 1 year.
Sessions	July	1	Bigamy	Penitentiary 1 year.
		1	Rape	State prison 10 years.
		1	Murder 2d degree	State prison life.
		1	Manslaughter	State prison 15 years.
		1	Assault	Penitentiary 2 years 6 mos.
		1	Assault	Penitentiary 1 year.
		3	Assault	Penitentiary 6 mos.
		1	Assault	Jail 20 days.
		2	Assault	House of refuge.
		2	Burglary	State prison 8 years.
		1	Burglary	State prison 3 years 6 mos.
		1	Burglary	State reformatory.
		5	Attempted burglary	Penitentiary 2 years 6 mos.
		2	Attempted burglary	Penitentiary 1 year.
		1	Attempted burglary	Penitentiary 2 years.
		1	Attempted burglary	State reformatory.
		1	Attempted grand larceny	State reformatory.
		1	Attempted grand larceny	Penitentiary 1 year 6 mos.
Sessions	October	2	Burglary	State reformatory.
		1	Attempted burglary	State reformatory.
		2	Burglary	State prison 10 years.
		4	Burglary	State prison 5 years.
		1	Burglary	State prison 3 years 6 mos.
		3	Burglary	Penitentiary 5 years.
		1	Burglary	Penitentiary 2 years 6 mos.
		1	Burglary	Penitentiary 1 year 6 mos.
		1	Attempted burglary	Penitentiary 2 years 6 mos.
		1	Attempted burglary	Penitentiary 2 years.
		1	Attempted burglary	Penitentiary 1 year 6 mos.
		2	Assault	Penitentiary 5 years.
		1	Assault	Penitentiary 2 years.
		1	Assault	Penitentiary 1 year and fine.
		1	Assault	Penitentiary 1 year.
		1	Assault	Penitentiary 6 mos.
		1	Kidnapping	Penitentiary 1 year.

Table A.— County of Kings — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions.....	1885. October ...	1	Grand larceny...	Penitentiary 5 years.
		1	Grand larceny......	Penitentiary 3 years 6 mos.
		3	Grand larceny...	Penitentiary 2 years 6 mos.
		1	Grand larceny........... ..	Penitentiary 2 years.
		2	Attempted grand larceny...	Penitentiary 2 years 6 mos.
		1	Attempted grand larceny...	Penitentiary 8 mos.
		1	Attempted grand larceny...	Penitentiary 2 years.
		4	Attempted grand larceny..	State reformatory.
		2	Grand larceny...............	Penitentiary 6 mos.
		1	Grand larceny.......	State reformatory.
		2	Grand larceny.......	Penitentiary 3 mos.
		1	Receiving stolen goods.....	Penitentiary 5 years.
		1	Malicious mischief	Penitentiary 1 year 2 mos.

COUNTY OF MADISON.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1884. December..	1	Assault..	State prison 3 years.
		1	Assault..........	State prison 1 year.
		2	Burglary.	State prison 3 years.
		1	Grand larceny..............	State prison 2 years.
		1	Robbery.........	State prison 10 years.
		1	Robbery......	State prison 2 years.
		1	Robbery......	State reformatory.

COUNTY OF MONROE.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions.....	1884. November..	2	Abduction...................	State prison 5 years.
		1	Arson..........	Penitentiary 6 mos.
		2	Assault.....	Penitentiary 1 year.
		1	Assault..	Fine.
		2	Burglary.....	State prison 1 year.
		1	Grand larceny........	State prison 2 years.
		1	Grand larceny...	State prison one year.
		2	Defrauding.................	Fine.
		4	Petit larceny............ ...	Fine.
		1	Petit larceny................	Sentence suspended.
		1	Petit larceny........	Penitentiary 6 mos.
		2	Trespass.	Penitentiary 4 mos.
Oyer & Ter..	December..	1	Manslaughter.......	State prison 3 years.
Oyer & Ter..	1885. February...	3	Assault	Fine.
		1	Assault	State prison 2 years.
		1	Assault....................	Penitentiary 4 mos.
		1	Burglary.	House of refuge
		1	Burglary.	State reformatory.
		1	Attempted burglary.......	Penitentiary 6 mos.
		1	Grand larceny...............	State prison 3 years.
		1	Grand larceny...............	State prison 2 years.
		3	Grand larceny...	State reformatory.
		1	Petit larceny.......	Sentence suspended.
		2	Petit larceny	Penitentiary 1 year and fine.
		1	Petit larceny...............	Penitentiary 6 mos. and fine.
		1	Petit larceny.	Penitentiary 1 month.
		1	Petit larceny	Penitentiary 25 days.
		1	Petit larceny...	Jail 4 mos.
		1	Petit larceny........	Fine.
Sessions.....	March......	2	Bribery...	Fine.
		1	Grand larceny...............	Penitentiary 3 mos.
Sessions.....	April.......	1	Petit larceny...	Sentence suspended.
		1	Grand larceny	Sentence suspended.
		2	Grand larceny...	State prison 2 years 6 mos.
		1	Malicious mischief.........	Penitentiary 4 years.
		1	Burglary...	Penitentiary 1 year.
		1	Petit larceny................	Fine.
		1	Assault	Penitentiary 1 year.
		1	Forgery................	State reformatory.
Sessions.....	May	2	Assault	State prison 3 years.

Table A.—County of Monroe—(Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1885. May	3	Assault	State prison 2 years 6 mos.
		1	Libel	Fine.
		1	Arson	State prison 2 years 6 mos.
		3	Burglary	State reformatory.
		1	Burglary	Penitentiary 2 years 6 mos.
		1	Burglary	Penitentiary 2 years.
Sessions	June	1	Assault	Penitentiary 1 year.
		1	Petit larceny	Fine.
		1	Forgery	State reformatory.
		1	Burglary	State reformatory.
Sessions	July	1	Assault	Fine.
		1	Burglary	State reformatory.
Sessions	October	1	Grand larceny	State reformatory.
		1	Assault	Penitentiary 2 years.

COUNTY OF MONTGOMERY.

Sessions	1884. December	1	Burglary	State prison 1 year 6 mos.
		1	Grand larceny	State prison 1 year 6 mos.
		1	Petit larceny	Penitentiary 6 months.
		1	Petit larceny	Fine.
Oyer & Ter.	May	1	Burglary	State prison 3 years.
Sessions	March	1	Burglary	State prison 15 years.
		1	Petit larceny	Penitentiary 1 year.
		2	Petit larceny	Penitentiary 4 months.
		1	Petit larceny	Penitentiary 2 mos. & fine.
		1	Petit larceny	Penitentiary 1 month.

COUNTY OF NEW YORK.

Sessions	1884. November	1	Abduction	State prison 4 years 6 mos.
		1	Assault	Penitentiary 5 years.
		1	Assault	Penitentiary 2 years 6 mos.
		4	Assault	Penitentiary 1 year & fine.
		5	Assault	Penitentiary 6 months.
		2	Assault	Penitentiary 2 months.
		1	Assault	State prison 5 years 6 mos.
		2	Assault	State prison 5 years.
		1	Assault	State prison 4 years 6 mos.
		1	Assault	State prison 4 years.
		1	Assault	State prison 3 years.
		1	Assault	State prison 2 years.
		1	Burglary	State prison 8 years.
		3	Burglary	State prison 5 years.
		2	Burglary	State prison 4 years 6 mos.
		3	Burglary	State prison 3 years 6 mos.
		1	Burglary	State prison 3 years.
		5	Burglary	State prison 2 years 6 mos.
		3	Burglary	State prison 1 year.
		1	Burglary	Penitentiary 1 year.
		1	Burglary	State reformatory.
		3	Felony	State prison 2 years 6 mos.
		1	Felony	State prison 1 year 6 mos.
		2	Felony	State prison 1 year.
		1	Forgery	State prison 6 years.
		1	Attempted grand larceny	State prison 3 years 6 mos.
		1	Attempted grand larceny	State prison 2 years 6 mos.
		1	Attempted grand larceny	State prison 2 years.
		1	Attempted grand larceny	State prison 1 year.
		1	Attempted grand larceny	Penitentiary 1 year.
		10	Grand larceny	State reformatory.
		1	Grand larceny	House of refuge.
		2	Grand larceny	Penitentiary 2 years 6 mos.
		3	Grand larceny	Penitentiary 2 years.
		2	Grand larceny	State prison 5 years.
		1	Grand larceny	State prison 4 years.
		1	Grand larceny	State prison 3 years 6 mos.
		2	Grand larceny	State prison 3 years.
		6	Grand larceny	State prison 2 years 6 mos.
		1	Grand larceny	State prison 2 years.

Table A. – County of New York — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions .	1884. November..	1	Misdemeanor	City prison 30 days & fine.
		1	Misdemeanor	City prison 10 days & fine.
		3	Misdemeanor	City prison 10 days.
		2	Misdemeanor	City prison 5 days.
		13	Misdemeanor	Fine.
		1	Misdemeanor	Penitentiary 3 mos.
		1	Misdemeanor	Penitentiary 2 mos.
		1	Misdemeanor	Penitentiary 1 month.
		1	Murder	Death.
		1	Petit larceny	House of refuge.
		1	Petit larceny	City prison 3 mos.
		2	Petit larceny	City prison 1 month.
		1	Petit larceny	City prison 10 days.
		2	Petit larceny	Penitentiary 1 year.
		1	Petit larceny	Penitentiary 10 mos.
		3	Petit larceny	Penitentiary 6 months.
		1	Petit larceny	Penitentiary 3 mos.
		1	Receiving stolen goods	Penitentiary 6 mos.
		1	Receiving stolen goods	Penitentiary 1 month.
		2	Robbery	State prison 7 years 6 mos.
		1	Attempted robbery	State prison 7 years 6 mos.
Oyer & Ter..	December..	1	Misdemeanor	City prison 1 month & fine.
		1	Manslaughter	State prison 10 years.
		1	Grand larceny	House of refuge
		1	Receiving stolen goods	State reformatory.
		1	Assault	Penitentiary 1 year.
Sessions	December..	1	Abduction	State prison 3 years.
		2	Assault	Fine.
		1	Assault	State prison 4 years 6 mos.
		2	Assault	State prison 2 years 6 mos.
		1	Assault	State prison 2 years.
		2	Assault	Penitentiary 2 years 6 mos.
		2	Assault	Penitentiary 2 years.
		2	Assault	Penitentiary 1 year.
		2	Assault	Penitentiary 6 mos.
		1	Assault	Penitentiary 3 mos.
		1	Assault	Penitentiary 2 mos.
		1	Assault	City prison 2 days.
		1	Bigamy	City prison 2 mos.
		2	Burglary	State reformatory.
		1	Burglary	State prison 4 years 6 mos
		1	Burglary	State prison 4 years.
		1	Burglary	State prison 3 years 6 mos.
		3	Burglary	State prison 3 years.
		10	Burglary	State prison 2 years 6 mos.
		1	Burglary	State prison 2 years.
		2	Burglary	Penitentiary 2 years 6 mos.
		1	Attempted burglary	Penitentiary 2 years.
		1	Attempted burglary	Penitentiary 1 year.
		3	Burglary	Penitentiary 1 year 6 mos.
		3	Burglary	Penitentiary 1 year.
		1	Felony	Penitentiary 10 days.
		1	Felony	City prison 10 days.
		1	Forgery	State prison 7 years 6 mos.
		1	Forgery	State prison 5 years.
		1	Forgery	State prison 2 years 6 mos.
		1	Forgery	State prison 2 years.
		1	Grand larceny	House of refuge.
		8	Grand larceny	State reformatory.
		1	Grand larceny	State prison 10 years.
		2	Grand larceny	State prison 6 years.
		2	Grand larceny	State prison 5 years.
		1	Grand larceny	State prison 4 years 6 mos.
		1	Grand larceny	State prison 4 years.
		2	Grand larceny	State prison 3 years.
		8	Grand larceny	State prison 2 years 6 mos.
		3	Grand larceny	State prison 2 years.
		1	Attempted grand larceny	State prison 2 years.
		1	Attempted grand larceny	State prison 2 years 6 mos.
		1	Attempted grand larceny	State prison 1 year.

Table A. — County of New York — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1884. December	1	Grand larceny	Penitentiary 5 years.
		1	Grand larceny	Penitentiary 3 years.
		2	Grand larceny	Penitentiary 2 years.
		1	Attempted grand larceny	Penitentiary 2 years.
		2	Grand larceny	Penitentiary 1 year.
		1	Lottery	Fine
		1	Manslaughter	State prison 15 years 6 mos.
		1	Manslaughter	State prison 10 years 6 mos.
		1	Manslaughter	State prison 10 years.
		1	Manslaughter	State prison 2 years 6 mos.
		1	Misdemeanor	City prison 5 days.
		1	Misdemeanor	Penitentiary 1 year.
		1	Misdemeanor	Penitentiary 9 mos.
		1	Misdemeanor	Penitentiary 1 year and fine.
		30	Misdemeanor	Fine.
		1	Attempted perjury	State prison 2 years 6 mos.
		3	Petit larceny	House of refuge.
		10	Petit larceny	Penitentiary 1 year.
		3	Petit larceny	Penitentiary 9 mos.
		1	Petit larceny	Penitentiary 1 year and fine.
		20	Petit larceny	Penitentiary 6 mos
		1	Attempted petit larceny	Penitentiary 6 mos. and fine.
		4	Petit larceny	Penitentiary 3 mos.
		2	Petit larceny	City prison 14 days.
		1	Petit larceny	City prison 10 days.
		1	Petit larceny	City prison 5 days.
		1	Petit larceny	City prison 1 day.
		2	Receiving stolen goods	Penitentiary 1 year.
		1	Receiving stolen goods	State prison 3 years.
		2	Receiving stolen goods	State prison 2 years 6 mos.
		1	Robbery	State prison 6 years.
		2	Robbery	State prison 5 years.
		2	Attempted robbery	State prison 5 years.
		2	Robbery	State reformatory.
Sessions	1885. January	1	Assault	State prison 4 years.
		1	Assault	State prison 5 years.
		2	Assault	Penitentiary 2 years.
		3	Assault	Penitentiary 1 year.
		1	Assault	Penitentiary 9 mos.
		1	Assault	Penitentiary 3 mos.
		1	Assault	City prison 10 days.
		1	Assault	Fine.
		1	Attempted burglary	Penitentiary 2 years.
		3	Burglary	House of refuge.
		8	Burglary	State reformatory.
		1	Burglary	State prison 8 years 6 mos.
		2	Burglary	State prison 5 years.
		1	Burglary	State prison 4 years.
		3	Burglary	State prison 3 years 6 mos.
		4	Burglary	State prison 3 years.
		3	Burglary	State prison 2 years 6 mos.
		1	Burglary	State prison 2 years.
		2	Burglary	State prison 1 year.
		2	Burglary	Penitentiary 2 years.
		5	Burglary	Penitentiary 1 year.
		1	Burglary	Penitentiary 2 mos.
		1	Felony	State prison 2 years.
		1	Felony	City prison 1 day.
		1	Forgery	State prison 1 year 3 mos.
		1	Attempted forgery	Penitentiary 1 year.
		1	Attempted forgery	State reformatory.
		1	Attempted grand larceny	State prison 4 years 6 mos.
		1	Grand larceny	State prison 7 years.
		1	Grand larceny	State prison 6 years 6 mos.
		1	Grand larceny	State prison 5 years.
		3	Grand larceny	State prison 3 years 6 mos.
		2	Grand larceny	State prison 3 years.
		9	Grand larceny	State prison 2 years 6 mos.
		1	Grand larceny	State prison 2 years.
		2	Grand larceny	Penitentiary 2 years 6 mos.

Table A. — County of New York — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
	1885.			
Sessions	January	4	Grand larceny	Penitentiary 2 years.
		6	Grand larceny	State reformatory.
		1	Grand larceny	House of refuge.
		2	Assault	City prison 30 days.
		3	Assault	City prison 10 days.
		1	Assault	State reformatory.
		1	Bigamy	State prison 1 year 6 mos.
		3	Attempted burglary	State prison 2 years 6 mos.
		2	Attempted burglary	State prison 2 years.
		1	Attempted burglary	State prison 1 year 6 mos.
		1	Attempted burglary	Penitentiary 6 mos.
		2	Attempted burglary	City prison 1 month.
		7	Burglary	State reformatory.
		3	Burglary	House of refuge.
		1	Burglary	State prison 5 years.
		2	Burglary	State prison 4 years 6 mos.
		5	Burglary	State prison 3 years 6 mos.
		1	Burglary	State prison 3 years.
		3	Burglary	State prison 2 years 6 mos.
		3	Burglary	State prison 2 years.
		2	Burglary	State prison 1 year 6 mos.
		1	Burglary	Penitentiary 2 years.
		2	Burglary	Penitentiary 1 year.
		1	Felony	Penitentiary 6 mos. & fine.
		1	Felony	Penitentiary 1 month.
		1	Felony	State prison 12 years.
		2	Felony	State prison 5 years 6 mos.
		1	Forgery	State reformatory.
		1	Attempted forgery	State reformatory.
		1	Attempted forgery	State prison 2 years 6 mos.
		2	Forgery	Penitentiary 5 years 6 mos.
		1	Forgery	State prison 5 years.
		1	Forgery	Penitentiary 5 years.
		1	Manslaughter	State prison 7 years.
		1	Misdemeanor	Penitentiary 6 mos.
		1	Misdemeanor	Penitentiary 3 mos.
		1	Misdemeanor	Penitentiary 10 days.
		6	Misdemeanor	City prison 5 days.
		7	Petit larceny	Penitentiary 1 year.
		3	Petit larceny	Penitentiary 6 mos.
		1	Petit larceny	Penitentiary 2 mos.
		1	Petit larceny	Penitentiary 1 month.
		1	Petit larceny	City prison 10 days.
		1	Petit larceny	City prison 1 day.
		1	Receiving stolen goods	State reformatory.
		1	Robbery	State prison 12 years.
		5	Robbery	State prison 10 years.
		2	Robbery	State prison 9 years 6 mos.
Sessions	February	1	Abduction	State prison 2 years 6 mos.
		1	Assault	State prison 5 years & fine.
		2	Assault	State prison 3 years 6 mos.
		2	Assault	State prison 2 years 6 mos.
		1	Assault	State prison 2 years 3 mos.
		1	Assault	Penitentiary 3 years 6 mos.
		1	Assault	Penitentiary 2 years 6 mos.
		5	Assault	Penitentiary 1 year & fine.
		3	Assault	Penitentiary 1 year.
		1	Assault	Penitentiary 10 mos.
		1	Assault	Penitentiary 9 months.
		1	Assault	Penitentiary 6 mos.
		3	Assault	Penitentiary 3 mos.
		1	Assault	Penitentiary 2 mos.
		3	Grand larceny	House of refuge.
		14	Grand larceny	State reformatory.
		1	Grand larceny	Penitentiary 7 years 6 mos.
		2	Grand larceny	Penitentiary 5 years.
		1	Grand larceny	Penitentiary 3 years 6 mos.
		1	Grand larceny	Penitentiary 2 years.
		1	Grand larceny	State prison 9 years 6 mos.
		1	Grand larceny	State prison 7 years 6 mos.
		3	Grand larceny	State prison 5 years.

Table A. — County of New York — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1885. February	3	Grand larceny	State prison 4 years 6 mos.
		3	Grand larceny	State prison 3 years 6 mos.
		1	Grand larceny	State prison 3 years 3 mos.
		4	Grand larceny	State prison 2 years 6 mos.
		2	Grand larceny	State prison 2 years 3 mos.
		1	Grand larceny	State prison 2 years.
		1	Attempted grand larceny	State reformatory.
		1	Misdemeanor	Penitentiary 15 days.
		1	Misdemeanor	Fine.
		1	Petit larceny	House of refuge.
		1	Petit larceny	City prison 2 mos.
		1	Petit larceny	City prison 1 month.
		1	Petit larceny	Penitentiary 3 months.
		1	Petit larceny	Penitentiary 2 years.
		5	Petit larceny	Penitentiary 1 year.
		1	Petit larceny	Penitentiary 1 year and fine.
		1	Petit larceny	Penitentiary 6 mos and fine.
		12	Petit larceny	Penitentiary 6 months.
		1	Petit larceny	Penitentiary 4 months.
		8	Petit larceny	Penitentiary 3 months.
		1	Receiving stolen goods	State reformatory.
		1	Robbery	State prison 20 years.
		1	Robbery	State prison 15 years.
		1	Robbery	State prison 10 years.
		1	Robbery	State reformatory.
		1	Trespass	City prison 1 month.
Sessions	March	1	Assault	House of refuge.
		2	Assault	State prison 4 years.
		1	Assault	State prison 2 years 6 mos.
		1	Assault	Penitentiary 3 years 6 mos.
		1	Assault	Penitentiary 1 year.
		2	Assault	Penitentiary 3 months.
		1	Assault	Penitentiary 1 year and fine.
		1	Assault	Penitentiary 250 days.
		1	Assault	State reformatory.
		1	Abduction	State prison 2 years 6 mos.
		1	Abduction	State prison 3 years 6 mos.
		2	Attempted burglary	State prison 2 years 6 mos.
		2	Attempted burglary	Penitentiary 1 year.
		1	Burglary	Penitentiary 2 years 6 mos.
		4	Burglary	Penitentiary 2 years.
		2	Burglary	Penitentiary 1 year 6 mos.
		1	Burglary	State prison 10 years.
		2	Burglary	State prison 6 years 6 mos.
		2	Burglary	State prison 5 years.
		1	Burglary	State prison 4 years 6 mos.
		1	Burglary	State prison 4 years.
		3	Burglary	State prison 3 years 6 mos.
		3	Burglary	State prison 2 years 6 mos.
		2	Burglary	State prison 2 years.
		3	Burglary	State prison 1 year 6 mos.
		7	Burglary	State reformatory.
		3	Burglary	House of refuge.
		1	Felony	Penitentiary 8 months.
		1	Forgery	State prison 10 years.
		1	Forgery	State prison 3 years.
		1	Forgery	Penitentiary 2 years.
		2	Attempted forgery	Penitentiary 2 years 6 mos.
		12	Grand larceny	State reformatory.
		1	Grand larceny	House of refuge.
		1	Grand larceny	Penitentiary 2 years.
		1	Grand larceny	Penitentiary 6 mos.
		2	Grand larceny	State prison 7 years 6 mos.
		4	Grand larceny	State prison 5 years
		1	Grand larceny	State prison 4 years 6 mos.
		1	Grand larceny	State prison 4 years.
		2	Grand larceny	State prison 3 years 6 mos.
		3	Grand larceny	State prison 3 years.
		9	Grand larceny	State prison 2 years 6 mos.
		5	Misdemeanor	Fine.
		2	Petit larceny	House of refuge.

Table A.— County of New York— (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
	1885.			
Sessions	March	1	Petit larceny	City prison 1 month.
		1	Petit larceny	Penitentiary 4 years.
		4	Petit larceny	Penitentiary 1 year.
		4	Petit larceny	Penitentiary 9 mos.
		7	Petit larceny	Penitentiary 6 mos.
		4	Petit larceny	Penitentiary 3 mos.
		3	Petit larceny	Penitentiary 1 month.
		1	Rape	State prison 20 years.
		1	Receiving stolen goods	State prison 2 years.
		1	Receiving stolen goods	Penitentiary 3 years.
		2	Receiving stolen goods	Penitentiary 1 year.
		1	Receiving stolen goods	State reformatory.
		3	Robbery	State reformatory
		1	Attempted robbery	State prison 15 years.
		1	Attempted robbery	State prison 7 years 6 mos.
		1	Robbery	State prison 6 years 6 mos.
		1	Robbery	State prison 3 years.
		1	Seduction	State prison 1 year 6 mos.
Sessions	April	1	Burglary	State prison 8 years.
		1	Burglary	State prison 4 years.
		1	Burglary	State prison 5 years.
		1	Burglary	State prison 3 years 6 mos.
		1	Burglary	State prison 3 years.
		1	Burglary	State prison 2 years.
		1	Burglary	State prison 2 years.
		1	Burglary	State prison 2 years.
		1	Burglary	State reformatory.
		2	Burglary	State prison 15 years.
		2	Burglary	State prison 10 years.
		1	Burglary	State prison 5 years.
		2	Burglary	State prison 4 years.
		2	Burglary	State prison 2 years 6 mos.
		1	Burglary	State prison 1 year.
		1	Burglary	Penitentiary 1 year.
		1	Burglary	State reformatory.
		1	Attempted burglary	State prison 2 years 6 mos.
		3	Attempted burglary	State prison 1 year 6 mos.
		1	Attempted burglary	Penitentiary 1 year 6 mos.
		1	Felony	Fine $100.
		1	Felony	City prison 1 month.
		1	Forgery	State prison 7 years.
		1	Forgery	State prison 7 years 6 mos.
		1	Forgery	State prison 1 year 6 mos.
		5	Grand larceny	State prison 4 years.
		1	Grand larceny	State prison 10 years.
		2	Grand larceny	State prison 5 years.
		3	Grand larceny	State prison 3 years.
		2	Grand larceny	State prison 2 years 6 mos.
		7	Grand larceny	State prison 2 years.
		2	Grand larceny	Penitentiary 2 years.
		1	Grand larceny	Penitentiary 3 years.
		14	Grand larceny	State reformatory.
		4	Grand larceny	House of refuge.
		1	Manslaughter	State prison 20 years.
		1	Manslaughter	State prison 15 years.
		1	Manslaughter	State prison 7 years.
		1	Manslaughter	State prison 5 years.
		1	Manslaughter	State prison 4 years.
		1	Manslaughter	State prison 2 years 6 mos.
		3	Misdemeanor	Fine $25.
		1	Misdemeanor	Fine $30.
		1	Misdemeanor	Fine $1.
		1	Misdemeanor	Penitentiary 1 year.
		1	Murder, 2d degree	State prison life.
		17	Petit larceny	Penitentiary 1 year.
		1	Petit larceny	Penitentiary 8 months.
		14	Petit larceny	Penitentiary 6 months.
		1	Petit larceny	Penitentiary 4 months.
		1	Petit larceny	Penitentiary 3 months.
		1	Petit larceny	Penitentiary 2 months.
		2	Petit larceny	Penitentiary 1 month.

Table A.—County of New York—(Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
	1885.			
Sessions....	April...	1	Petit larceny	City prison 30 days.
		2	Petit larceny	City prison 10 days.
		1	Petit larceny	City prison 5 days.
		1	Petit larceny	City prison 1 day.
		3	Petit larceny	House of refuge 3 days.
		1	Attempted larceny	Penitentiary 1 year.
		1	Attempted larceny	City prison 10 days.
		3	Receiving stolen goods	Penitentiary 1 year.
		1	Receiving stolen goods	State reformatory 1 year.
Sessions...	February...	1	Assault	State prison 5 years
		1	Assault	Penitentiary 6 months.
		1	Felony	State prison 5 years.
		1	Grand larceny	State prison 2 years 6 mos.
		1	Grand larceny	State prison 2 years.
		1	Manslaughter	State prison 20 years.
		1	Manslaughter	Penitentiary 10 years.
		1	Misdemeanor	City pris. 10 days & $100 fine.
Sessions	December..	1	Misdemeanor	Fine $250.
Sessions....	February...	1	Murder, 2d degree	State prison life.
		1	Robbery	State prison 12 years.
Sessions ...	April.......	1	Assault	State prison 4 years 6 mos.
		1	Assault	Penitentiary 6 months.
		1	Assault	Penitentiary 1 year
		1	Assault	Penitentiary 2 years.
		1	Assault	Penitentiary 4 months.
		1	Assault	Penitentiary 1 year.
		1	Assault	State prison 3 years.
		1	Assault	Penitentiary 2 months.
		1	Assault	City prison 30 days.
		1	Assault	Penitentiary 2 months.
		1	Burglary	State prison 2 years.
		1	Burglary	State prison 3 years 6 mos.
		1	Burglary	State prison 3 years.
		1	Burglary	State prison 3 years.
		1	Burglary	State reformatory.
		1	Burglary	State reformatory.
		1	Burglary	State prison 1 year 6 mos.
		1	Burglary	Penitentiary 2 years.
		1	Burglary	State reformatory.
		1	Burglary	State reformatory.
		1	Receiving stolen goods	City prison 15 days.
		1	Receiving stolen goods	State prison 5 years
		1	Receiving stolen goods	State prison 2 years.
		7	Robbery	State prison 15 years.
		2	Robbery	State prison 10 years.
		1	Robbery	State prison 12 years.
Sessions ...	May.......	1	Arson	State prison 15 years.
		1	Assault	Pen. 1 year and fine $25.
		2	Assault	State prison 4 years.
		1	Assault	State prison 4 years 6 mos.
		2	Assault	State prison 2 years.
		1	Assault	Penitentiary 2 years.
		1	Assault	Penitentiary 6 years.
		3	Assault	Penitentiary 1 year.
		1	Assault	Pen. 1 year and fine $50.
		1	Assault	Penitentiary 9 months.
		2	Assault	Penitentiary 3 months.
		2	Assault	Penitentiary 6 months.
		2	Assault	Penitentiary and fine $100.
		2	Assault	City prison 30 days.
		1	Bigamy	Penitentiary 1 year.
		1	Bigamy	Penitentiary 6 months.
		2	Burglary	State prison 12 years.
		1	Burglary	State prison 6 years.
		1	Burglary	State prison 5 years.
		1	Burglary	State prison 2 years.
		4	Burglary	State prison 2 years 6 mos.
		1	Burglary	State prison 1 year 6 mos.
		3	Burglary	State prison 1 year.
		3	Burglary	Penitentiary 2 years.

Table A.—County of New York—(Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions.....	1885. May	3	Burglary.	Penitentiary 1 year.
		2	Burglary	State reformatory.
		4	Burglary	House of refuge.
		1	Burglary.	State reformatory.
		4	Attempted burglary	Penitentiary 6 months.
		1	Felony	Penitentiary 2 years 6 mos.
		1	Felony	Penitentiary 1 year 6 mos.
		1	Felony	Penitentiary 3 months.
		1	Felony	Penitentiary 2 months.
		1	Forgery	Penitentiary 4 years 6 mos.
		1	Attempted forgery	State prison 1 year 6 mos.
		1	Grand larceny	State prison 8 years 6 mos.
		1	Grand larceny	State prison 7 years.
		1	Grand larceny	State prison 5 years 6 mos.
		3	Grand larceny	State prison 5 years.
		1	Grand larceny	State prison 4 years 6 mos.
		2	Grand larceny	State prison 4 years.
		1	Grand larceny	State prison 3 years 6 mos.
		3	Grand larceny	State prison 3 years.
		7	Grand larceny	State prison 2 years 6 mos.
		1	Grand larceny	State prison 2 years.
		1	Grand larceny	Penitentiary 5 years.
		2	Grand larceny	Penitentiary 3 years 6 mos.
		4	Grand larceny	Penitentiary 2 years 6 mos.
		1	Grand larceny	Penitentiary 2 years.
		6	Grand larceny	State reformatory.
		1	Grand larceny	House of refuge.
		1	Attempted grand larceny	State prison 1 year.
		1	Attempted grand larceny	Penitentiary 1 year.
		1	Manslaughter	State prison 5 years.
		1	Manslaughter	State prison 4 years.
		1	Manslaughter	Penitentiary 4 years.
		2	Manslaughter	Penitentiary 1 year.
		3	Misdemeanor	Penitentiary 6 months.
		5	Misdemeanor	Fine $30.
		1	Misdemeanor	Fine $25.
		1	Misdemeanor	Fine $10.
		1	Petit larceny	Pen. 1 year and fine $250.
		1	Petit larceny	Pen. 1 year and fine $50.
		5	Petit larceny	Penitentiary 1 year.
		5	Petit larceny	Penitentiary 6 months.
		2	Petit larceny	Penitentiary 3 months.
		1	Petit larceny.	Penitentiary 2 months.
		1	Petit larceny	City prison 2 months.
		6	Petit larceny	City prison 10 days.
		2	Petit larceny	City prison 5 days.
		1	Petit larceny	House of refuge.
		1	Receiving stolen goods	State prison 3 years.
		1	Robbery	State prison 25 years.
		1	Robbery	State prison 5 years.
		1	Attempted robbery.	State prison 2 years.
		1	Rape.	State prison 17 years 6 mos.
		1	Seduction	State reformatory.
		1	At. to com. crime ag't nature	State prison 4 years 6 mos.
Sessions	June	1	Assault	State prison 10 years.
		2	Assault	State prison 4 years 6 mos.
		1	Assault	State prison 4 years.
		1	Assault	State prison 3 years 6 mos.
		2	Assault	State prison 2 years.
		3	Assault	Penitentiary 1 year.
		3	Assault	Penitentiary 9 months.
		2	Assault	Penitentiary 6 months.
		1	Bigamy	State prison 2 years.
		2	Burglary	State prison 6 years.
		1	Burglary	State prison 5 years.
		1	Burglary.	State prison 4 years 6 mos.
		1	Burglary	State prison 4 years.
		1	Burglary	State prison 3 years 6 mos.
		1	Burglary	State prison 3 years.
		1	Burglary	State prison 2 years 6 mos.
		1	Burglary	State prison 2 years.

Table A. — County of New York —(Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
	1885.			
Sessions ...	June........	1	Burglary.........	Penitentiary 2 years 6 mos.
		1	Burglary	Penitentiary 1 year 6 mos.
		2	Burglary.	State reformatory.
		3	Burglary....	House of refuge.
		1	Felony..............	Penitentiary 3 years.
		1	Forgery.....	State prison 10 years.
		[illegible]	Forgery......................	State prison 5 years.
		1	Forgery	State prison 2 years 6 mos.
		1	Forgery	State reformatory.
		1	Grand larceny...	State prison 10 years.
		1	Grand larceny..	State prison 7 years 6 mos.
		2	Grand larceny	State prison 5 years.
		1	Grand larceny	State prison 4 years.
		4	Grand larceny.......	State prison 3 years 6 mos.
		4	Grand larceny	State prison 3 years.
		5	Grand larceny	State prison 2 years 6 mos.
		6	Grand larceny	State prison 2 years.
		2	Grand larceny	Penitentiary 3 years.
		1	Grand larceny.............	Penitentiary 2 years 3 mos.
		1	Grand larceny	Penitentiary 2 years 6 mos.
		2	Grand larceny	Penitentiary 2 years.
		11	Grand larceny	State reformatory.
		2	Grand larceny	House of refuge.
		2	Attempted grand larceny ..	State prison 2 years 6 mos.
		2	Attempted grand larceny ..	State prison 1 year 6 mos.
		1	Attempted grand larceny ..	State reformatory.
		1	Manslaughter	S. P. 10 years and fine $500.
		2	Murder, 2d degree.........	State prison his natural life.
		1	Forgery	State prison 4 years 6 mos.
		1	Petit larceny........... ..	Penitentiary 6 years.
		12	Petit larceny.....	Penitentiary 1 year.
		1	Petit larceny...	Penitentiary 9 months.
		9	Petit larceny	Penitentiary 6 months.
		3	Petit larceny.............. ..	Penitentiary 3 months.
		1	Petit larceny....	Penitentiary 2 months.
		1	Petit larceny...... ...	Penitentiary 1 month.
		1	Petit larceny	City prison 10 days.
		2	Rape.	State prison 16 years.
		1	Rape.	State prison 12 years.
		1	Receiving stolen goods.....	State prison 3 years.
		1	Receiving stolen gkods	State reformatory.
		2	Robbery................ ...	State prison 12 years.
		1	Robbery	State prison 8 years.
		1	Robbery	State prison 5 years 6 mos.
		2	Robbery	State prison 5 years.
		1	Robbery........	State reformatory.
		1	Seduction	Penitentiary 1 year.
Sessions.....	July	1	Assault......................	Penitentiary 2 years.
		1	Assault and rape	State prison 20 years.
		1	Assault	State prison 10 years.
		3	Assault	State prison 5 years.
		1	Assault.......	State prison 6 years.
		1	Assault	Penitentiary 6 years.
		2	Assault	Penitentiary 1 year.
		1	Assault	Penitentiary 1 month.
		2	Assault......	Penitentiary 9 months.
		2	Assault..	Penitentiary 3 months.
		1	Assault.................. ..	City prison 10 days.
		1	Assault	State reformatory.
		1	Bigamy	State prison 1 year.
		1	Burglary	State prison 5 years.
		3	Burglary	State prison 3 years.
		1	Burglary	State prison 1 year 6 mos.
		1	Burglary	State prison 2 years.
		3	Burglary	State prison 1 year.
		1	Burglary	Penitentiary 1 year.
		2	Burglary	State reformatory.
		1	Burglary	House of refuge.
		1	Attempted burglary	State reformatory.
		1	Felony	State prison 9 years.
		1	Felony	Penitentiary 6 months.

Table A. — *County of New York* — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
	1885.			
Sessions	July	1	Forgery	State prison 6 years.
		1	Forgery	State prison 5 years.
		1	Forgery	State prison 1 year.
		1	Grand larceny	State prison 10 years.
		1	Grand larceny	State prison 4 years.
		1	Grand larceny	State prison 3 years 6 mos.
		6	Grand larceny	State prison 3 years.
		12	Grand larceny	State prison 2 years.
		1	Grand larceny	Penitentiary 3 years.
		1	Grand larceny	Penitentiary 2 years 6 mos.
		3	Grand larceny	Penitentiary 2 years.
		9	Grand larceny	State reformatory.
		3	Grand larceny	House of refuge.
		1	Attempted grand larceny	State prison 3 years.
		1	Attempted grand larceny	State prison 1 year.
		1	Attempted grand larceny	Penitentiary 6 mos.
		1	Attempted grand larceny	State reformatory.
		1	Manslaughter	State prison 10 years.
		1	Misdemeanor	Fine $30.
		1	Misdemeanor	Penitentiary 30 days.
		1	Murder	Death.
		4	Petit larceny	Penitentiary 1 year.
		1	Petit larceny	Penitentiary 9 months.
		4	Petit larceny	Penitentiary 6 months.
		2	Petit larceny	Penitentiary 3 months.
		2	Petit larceny	Penitentiary 2 months.
		3	Petit larceny	Penitentiary 1 month.
		1	Petit larceny	Penitentiary 30 days.
		1	Petit larceny	City prison 10 days.
		3	Petit larceny	City prison 5 days.
		1	Robbery	State prison 2 years.
		1	Attempted robbery	State prison 5 years.
		2	Attempted suicide	Penitentiary 1 month.
		1	Attempted suicide	City prison 5 days.
Sessions	August	4	Assault	State prison 5 years.
		4	Assault	State prison 2 years.
		1	Assault	State prison 2 years 6 mos.
		2	Assault	Penitentiary 2 years 6 mos.
		2	Assault	Penitentiary 9 months.
		4	Assault	Penitentiary 6 months.
		1	Assault	City prison 10 days.
		1	Bigamy	State prison 2 years.
		1	Bigamy	City prison 4 months.
		2	Burglary	State prison 5 years.
		1	Burglary	State prison 4 years 6 mos.
		1	Burglary	State prison 4 years.
		2	Burglary	State prison 3 years.
		4	Burglary	State prison 2 years 6 mos.
		3	Burglary	State prison 2 years.
		2	Burglary	Penitentiary 2 years 6 mos
		6	Burglary	Penitentiary 1 year.
		3	Burglary	State reformatory.
		2	Burglary	House of refuge.
		1	Attempted burglary	State prison 1 year 6 mos.
		2	Attempted burglary	Penitentiary 1 year.
		1	Attempted burglary	Penitentiary 6 months.
		1	Attempted burglary	House of refuge.
		1	Forgery	State prison 1 year.
		1	Attempted forgery	State prison 2 years 6 mos.
		7	Grand larceny	State prison 3 years.
		5	Grand larceny	State prison 2 years 6 mos.
		9	Grand larceny	State prison 2 years.
		4	Grand larceny	Penitentiary 2 years.
		11	Grand larceny	State reformatory.
		3	Grand larceny	House of refuge.
		2	Attempted grand larceny	State prison 2 years.
		1	Attempted grand larceny	State prison 1 year 6 mos.
		1	Attempted grand larceny	Penitentiary 1 year 6 mos.
		2	Attempted grand larceny	Penitentiary 1 year.
		1	Attempted grand larceny	Penitentiary 6 months.
		1	Misdemeanor	City prison 10 days.

Table A.— County of New York — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1885. August.	23	Petit larceny	Penitentiary 1 year.
		7	Petit larceny	Penitentiary 6 mos.
		1	Petit larceny	Penitentiary 3 mos.
		3	Petit larceny	Penitentiary 2 mos.
		2	Petit larceny	City prison 1 month.
		1	Petit larceny	City prison 10 days.
		1	Receiving stolen goods	State prison 2 years.
		1	Robbery	State prison 10 years.
		1	Robbery	State prison 5 years.
		1	Robbery	State prison 4 years.
Sessions	September.	1	Assault	State prison 5 yrs & $1,000 fine
		1	Assault	State prison 5 years.
		2	Assault	State prison 2 years 6 mos.
		7	Assault	Penitentiary 1 year.
		2	Assault	Penitentiary 6 months.
		2	Assault	Penitentiary 3 months.
		1	Assault	Penitentiary 2 months.
		2	Assault	Penitentiary 1 month.
		1	Assault	Penitentiary 10 months.
		1	Bigamy	State prison 1 year 6 mos.
		2	Burglary	State prison 5 years.
		1	Burglary	State prison 4 years 6 mos.
		1	Burglary	State prison 3 years 6 mos.
		1	Burglary	State prison 2 years 6 mos.
		1	Burglary	State prison 2 years 3 mos.
		2	Burglary	State prison 2 years.
		3	Burglary	State prison 1 year 6 mos.
		1	Burglary	State prison 6 months.
		1	Burglary	Penitentiary 2 years 6 mos.
		1	Burglary	Penitentiary 1 year 6 mos.
		1	Burglary	Penitentiary 1 year 3 mos.
		3	Burglary	State reformatory.
		1	Attempted burglary	State prison 2 years 6 mos.
		1	Attempted burglary	State prison 1 year.
		1	Forgery	State prison 7 years 6 mos.
		1	Grand larceny	State prison 6 years.
		1	Grand larceny	State prison 5 years.
		1	Grand larceny	State prison 4 years 6 mos.
		7	Grand larceny	State prison 4 years.
		7	Grand larceny	State prison 3 years 6 mos.
		3	Grand larceny	State prison 3 years.
		10	Grand larceny	State prison 2 years 6 mos.
		5	Grand larceny	State prison 2 years.
		1	Attempted grand larceny	State prison 2 years.
		1	Attempted grand larceny	Penitentiary 2 years 6 mos.
		2	Attempted grand larceny	Penitentiary 2 years.
		2	Attempted grand larceny	House of refuge.
		12	Attempted grand larceny	State reformatory.
		1	Felony	Fine $15.
		1	Murder	Death.
		1	Manslaughter	State prison 2 years 6 mos.
		1	Misdemeanor	Fine $50.
		10	Petit larceny	Penitentiary 1 year.
		9	Petit larceny	Penitentiary 6 months.
		5	Petit larceny	Penitentiary 3 months.
		4	Petit larceny	Penitentiary 2 months.
		2	Petit larceny	Penitentiary 1 month.
		4	Petit larceny	House of refuge.
		1	Petit larceny	City prison 1 day.
		1	Perjury	State prison 10 years.
		4	Robbery	State prison 15 years.
		2	Robbery	State prison 10 years 6 mos.
Sessions	October	2	Assault	State prison 10 years.
		1	Assault	State prison 8 years.
		1	Assault	State prison 4 years.
		1	Assault	State prison 2 years.
		1	Assault	Penitentiary 2 years.
		5	Assault	Penitentiary 1 year.
		2	Assault	Penitentiary 1 year and fine $50 each.
		1	Assault	Penitentiary 6 months.
		1	Assault	Penitentiary 1 month.

Table A.—County of New York — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
	1885.			
Sessions . ..	October .	1	Assault	Penitentiary and fine $10.
		1	Assault	C. P. 10 days & fine $50.
		1	Assault	State reformatory.
		1	Bigamy	State prison 3 years.
		1	Burglary.	State prison 7 years 6 mos.
		2	Burglary.	State prison 5 years.
		1	Burglary.	State prison 4 years.
		3	Burglary	State prison 3 years 6 mos.
		3	Burglary	State prison 2 years 6 mos.
		2	Burglary	State prison 2 years.
		1	Burglary	State prison 1 year 9 mos.
		2	Burglary	State prison 1 year 6 mos.
		2	Burglary	Penitentiary 1 year 6 mos.
		1	Burglary	Penitentiary 1 year.
		4	Burglary	House of refuge.
		1	Burglary	State reformatory.
		1	Attempted burglary	State prison 4 years 6 mos.
		2	Attempted burglary	State prison 2 years 6 mos.
		1	Attempted burglary	State prison 1 year 6 mos.
		1	Attempted burglary	Penitentiary 6 months.
		1	Felony	Penitentiary 1 year.
		2	Felony	Penitentiary 3 months.
		1	Felony	City prison 10 days.
		1	Forgery	State prison 10 years.
		1	Forgery	State prison 8 years.
		2	Forgery	State reformatory
		1	Grand larceny	State prison 10 years.
		6	Grand larceny	State prison 5 years.
		3	Grand larceny	State prison 4 years 6 mos.
		1	Grand larceny	State prison 4 years.
		2	Grand larceny	State prison 3 years 6 mos.
		3	Grand larceny	State prison 3 years.
		2	Grand larceny	State prison 2 years 6 mos.
		3	Grand larceny	State prison 2 years.
		1	Grand larceny.	Penitentiary 3 years.
		1	Grand larceny	Penitentiary 2 years 6 mos.
		3	Grand larceny	Penitentiary 2 years.
		1	Grand larceny	Penitentiary 1 year.
		6	Grand larceny	State reformatory.
		4	Attempted grand larceny	State prison 2 years.
		2	Attempted grand larceny	State prison 1 year 6 mos.
		1	Attempted grand larceny	Penitentiary 6 months
		1	Attempted grand larceny	State reformatory.
		1	Manslaughter	State prison 2 years 6 mos.
		1	Murder	State prison for life.
		1	Misdemeanor	Penitentiary 9 months.
		1	Misdemeanor	City pris. 10 days & fine $50.
		1	Misdemeanor	City pris. 10 days & fine $500.
		1	Misdemeanor	City pris. 10 days & fine $100.
		1	Misdemeanor	Penitentiary 1 year.
		12	Petit larceny	Penitentiary 1 year.
		4	Petit larceny	Penitentiary 9 months.
		6	Petit larceny	Penitentiary 6 months.
		6	Petit larceny	Penitentiary 3 months.
		1	Petit larceny	Penitentiary 5 months.
		1	Petit larceny	Pen. 1 year and fine $100.
		1	Petit larceny	Pen. 1 year and fine $50.
		1	Petit larceny	City prison 1 month.
		1	Petit larceny	City prison 10 days.
		1	Receiving stolen goods	State prison 3 years 6 mos.
		1	Receiving stolen goods	State prison 2 years 6 mos.
		2	Receiving stolen goods	State prison 1 year.
		1	Robbery	State prison 10 years.
		1	Robbery	State prison 6 years.
			COUNTY OF NIAGARA.	
	1884.			
Sessions. ...	December..	1	Assault	State prison 2 years.
		1	Forgery	State prison 5 years.
		1	Forgery	State prison 2 years.
		1	Violation excise law	Jail.

Table A.— County of Niagara —(Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
	1884.			
Sessions ..	December ..	2	Violation excise law	Fine
		2	Burglary..............	State prison 2 years.
		1	Burglary....	Penitentiary 1 year.
		1	Burglary	Penitentiary 3 months.
		1	Accessory to felony	State prison 1 year.
		1	Grand larceny...............	Penitentiary 1 year.
		1	Oppression	Jail and fine.
	1885.			
Sessions.....	March	1	Rape.	State prison 10 years.
		1	Grand larceny...	Penitentiary 1 year
		1	Burglary.........	State reformatory.
Sessions.....	April	1	Grand larceny............ ..	State prison 3 years.
Oyer & Ter..	April	1	Burglary.	State prison 10 years.
		1	Burglary....................	State prison 2 years.
Sessions.....	April.......	1	Burglary....	State reformatory.
Sessions.....	May	1	Robbery......	Fine.
Sessions....	October....	1	Assault.........	State prison 2 years.
			COUNTY OF ONEIDA.	
	1884.			
Oyer & Ter..	November..	2	Burglary....	State prison 3 years.
		1	Burglary........	State prison 2 years.
		1	Burglary........	S. P. 2 yrs. ex.form. sent'ce.
		1	Misdemeanor...	Jail 2 months.
Sessions. ...	December..	1	Assault.	State prison 2 years.
		1	Burglary.	State prison 3 years.
		1	Grand larceny..............	State prison 7 years.
		1	Rape.......	State reformatory.
		1	Robbery	State prison 3 years.
		4	Riot	Fine.
	1885.			
Oyer & Ter..	January...	1	Manslaughter	State prison 15 year.
Sessions.....	April	1	Forgery.....................	State prison 5 years.
Sessions.....	May	1	Rape......	State prison 20 years.
		1	Robbery	State prison 10 years.
			COUNTY OF ONONDAGA.	
	1884.			
Oyer & Ter..	December..	1	Burglary....................	State prison 2 years 6 mos.
		1	Burglary.....	Fine $25.
		1	Grand larceny..............	State prison 2 years 6 mos.
		1	Misdemeanor...	Penitentiary 9 months.
	1885.			
Oyer & Ter..	January....	1	Forgery................	State prison 5 years.
		1	Forgery	Penitentiary 1 year 6 mos.
		1	Burglary.....	State prison 5 years 6 mos.
		1	Burglary.	State prison 5 years.
		2	Burglary	State prison 4 years 6 mos.
		1	Burglary.	State prison 4 years.
		1	Grand larceny......	State prison 5 years 3 mos.
		1	Grand larceny...............	State prison 2 years.
		1	Bigamy	State prison 7 years.
		1	Bigamy..........	Penitentiary 3 years.
		4	Violation excise law	Fine.
		1	Malicious mischief..	Penitentiary 1 year.
		1	Gambling	Fine.
		1	Assault	Penitentiary 3 years.
		1	Assault	Fine.
		1	Murder, 2d degree..........	State prison life.
		1	Burglary........	State reformatory.
		1	Burglary..	State prison 3 years.
		1	Grand larceny.......	State prison 6 years.
		1	Grand larceny.......	State prison 6 months.
		1	Petit larceny...............	State prison 2 years.
		1	Abduction..................	State prison 2 years.
Oyer & Ter..	February ..	1	Murder	Death.
Oyer & Ter..	March......	1	Forgery.	Penitentiary 1 year and fine.
		1	Grand larceny...............	State prison 5 years.
Oyer & Ter..	April.......	1	Forgery	State reformatory.
		1	Forgery	Penitentiary 1 year 4 mos.
		1	Forgery	Penitentiary 1 year and fine.

Table A.—County of Onondaga — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Oyer & Ter.	1885. April	1	Grand larceny	State prison 2 years.
		1	Grand larceny	State prison 6 years.
		1	Grand larceny	State prison 6 mos.
		1	Grand larceny	State reformatory.
		1	Petit larceny	State prison 2 years.
		1	Burglary	State prison 1 year 6 mos.
		1	Defrauding	Penitentiary 6 months.
Oyer & Ter.	September	1	Burglary	Penitentiary 1 year.
		1	Keeping disorderly house	Fine.
			COUNTY OF ONTARIO.	
Oyer & Ter.	1884. November	1	Burglary	State reformatory.
		1	Grand larceny	State prison 5 years.
		1	Grand larceny	Penitentiary 5 years.
		1	Grand larceny	State prison 3 years.
		1	Grand larceny	State reformatory.
		1	Petit larceny	State reformatory.
Oyer & Ter.	1885. February	1	Illegal practice	Fine.
		1	Forgery	State prison 5 years.
		1	Petit larceny	Penitentiary 3 months.
Oyer & Ter.	March	1	Grand larceny	Penitentiary 1 year.
		1	Grand larceny	State reformatory.
Oyer & Ter	April	1	Murder, 2d degree	State prison life.
Sessions	May	3	Riot	Fine.
Oyer & Ter.	May	1	Riot	Penitentiary 40 days.
		1	Forgery	State reformatory.
		1	Petit larceny	State prison 6 months.
Oyer & Ter.	une	1	Grand larceny	State prison 2 years.
Oyer & Ter.	July	1	Grand larceny	State prison 2 years 10 mos.
		1	Grand larceny	State prison 2 years.
Oyer & Ter.	October	1	Grand larceny	State prison 5 years.
Sessions	January	1	Arson	Penitentiary 1 year.
			COUNTY OF ORANGE.	
Oyer & Ter.	1884. December	1	Burglary	State prison 5 years.
		1	Burglary	Penitentiary 5 years.
		1	Burglary	State prison 4 years 6 mos.
		1	Malicious mischief	State prison 2 years 6 mos.
Sessions	1885. April	1	Burglary	State prison 2 years 5 mos.
		1	Arson	State prison 4 years.
		1	Petit larceny	Penitentiary 9 months.
		1	Burglary	Penitentiary 1 year.
		2	Resisting an officer	Penitentiary 1 year.
Sessions.	September.	1	Forgery	State prison 1 year.
			COUNTY OF ORLEANS.	
Sessions.	1884. November	1	Burglary	State prison 4 years 11 mos.
		1	Burglary	State reformatory.
Oyer & Ter.	June	1	Burglary	State prison 7 years.
		1	Perjury	State prison 10 years.
Sessions.	August	2	Prize fighting	Fine.
		1	Burglary	Penitentiary 6 months.
			COUNTY OF OTSEGO.	
Sessions.	1884. December	1	Assault	Penitentiary 8 months.
Oyer & Ter.	1885 January	1	Grand larceny	State reformatory.
		1	Murder	State prison life.
Sessions	October	1	Assault	Fine.
		1	Burglary	State reformatory.
			COUNTY OF PUTNAM.	
Sessions	1885. February	1	Grand larceny	State prison 5 years.
		1	Grand larceny	State prison 1 year.

Table A. — County of Putnam —(Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1885. February	1	Grand larceny	House of refuge
		1	Rape	State prison 10 years.
Oyer & Ter.	June	2	Burglary	State prison 3 years.
			COUNTY OF QUEENS	
Sessions	1884. November	1	Assault	Jail.
		1	Arson	State prison 3 years.
		1	Arson	State prison 2 years.
		2	Grand larceny	State prison 2 years 6 mos.
Oyer & Ter	1885. January	1	Assault	Sentence suspended.
		1	Grand larceny	Penitentiary 2 years.
Sessions	March	1	Grand larceny	State prison 6 years.
		1	Abduction	Penitentiary 3 mos.
		1	Burglary	State prison 2 years.
		4	Assault	Fine.
Sessions	April	1	Bigamy	Penitentiary 1 year.
		1	Petit larceny	Penitentiary 1 year.
		2	Grand larceny	Penitentiary 2 years.
Sessions	June	1	Rape	Jail 6 months and fine.
		1	Burglary	State prison 10 years.
		1	Assault	Jail 2 months.
		1	Assault	Penitentiary 6 months.
		1	Grand larceny	Jail 3 months.
		1	Grand larceny	State prison 2 years 6 mos.
		1	Petit larceny	State prison 8 years 6 mos.
Sessions.	July	1	Grand larceny	State prison 2 years 6 mos.
		1	Assault	Jail 10 days.
		1	Assault	Jail 2 months.
		1	Attempted arson	State prison 2 years 6 mos.
Oyer & Ter.	August.	1	Abduction	State prison 5 years.
			COUNTY OF RENSSELAER.	
Oyer & Ter.	1884. November	1	Murder	Death.
		1	Burglary	Penitentiary 3 years.
Sessions	December	1	Assault	Penitentiary 2 years 6 mos.
		1	Burglary	State prison 4 years 6 mos.
		2	Burglary	State reformatory.
		1	Grand larceny	State prison 2 years 6 mos.
		1	Grand larceny	State prison 2 years 4 mos.
		1	Petit larceny	Penitentiary 6 months.
Oyer & Ter.	1885. February	1	Grand larceny	Penitentiary 2 years.
		1	Grand larceny	State reformatory.
Sessions	March	1	Misdemeanor	Penitentiary 3 months.
		1	Burglary	State prison 4 years 6 mos.
		1	Burglary	State prison 2 years 6 mos.
		1	Grand larceny	State prison 5 years 6 mos.
		1	Grand larceny	State prison 5 years 3 mos.
		1	Grand larceny	State prison 5 years.
		1	Robbery	State prison 12 years 6 mos.
Sessions.	June	1	Robbery	State prison 15 years.
		1	Burglary	State prison 10 years.
		1	Burglary	Penitentiary 2 years.
		1	Burglary	Penitentiary 1 year.
		1	Burglary	Penitentiary 6 months.
		1	Escape	State prison 2 years.
		1	Disorderly person	Fine.
		1	Assault	Penitentiary 2 years.
		2	Grand larceny	Penitentiary 3 years.
Oyer & Ter.	September.	1	Forgery	State prison 5 years.
Oyer & Ter.	October.	1	Keeping disorderly house	Penitentiary 1 year and fine.
		1	Robbery	State prison 10 years.
		2	Assault	State prison 3 years.
		1	Assault	Penitentiary 1 year.

Table A. – County of Rensselaer — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Oyer & Ter..	1885. October....	1	Burglary	State prison 5 years.
		1	Seduction	State prison 2 years.
		4	Grand larceny......	State prison 5 years.
		2	Grand larceny........	State prison 2 years.
		1	Grand larceny..............	Penitentiary 1 year.
			COUNTY OF SARATOGA.	
Sessions.....	1884. December..	1	Assault	State prison 3 years 6 mos.
		1	Keeping gambling house...	Fine.
		1	Grand larceny............ ..	State prison 2 years.
		1	Grand larceny...............	House of refuge.
		1	Petit larceny...	Fine.
		1	Petit larceny.............. ..	Jail 2 months.
		1	Petit larceny......	Jail 15 days.
Oyer & Ter..	1885. January....	1	Burglary...........	State prison 1 year 6 mos.
		1	Burglary	State reformatory.
		1	Assault	Fine.
		1	Stoning railroad train.. ...	State reformatory.
Sessions....	February. .	1	Assault	Fine.
Sessions. ..	June.......	1	Assault	State prison 10 years.
		1	Assault	State reformatory.
Sessions....	July	2	Assault	Fine.
		1	Manslaughter	State prison 12 years.
		2	Burglary..............	State prison 1 year.
			COUNTY OF SCHENECTADY.	
Oyer & Ter..	1884. November..	1	Burglary....	State prison 1 year.
Sessions.....	1885. January....	1	Petit larceny.......	State prison 2 years.
Sessions.....	February. .	1	Burglary	State prison 3 years 6 mos.
		1	Burglary	House of refuge.
		1	Resisting an officer.........	Fine.
Oyer & Ter..	May	1	Burglary..	State prison 15 years.
		1	Burglary.........	State prison 10 years.
Oyer & Ter..	September.	1	Robbery	State prison 12 years.
		1	Rape.	State prison 8 years.
		1	Assault	State prison 3 years.
		1	Grand larceny	State prison 2 years.
			COUNTY OF SCHOHARIE.	
Sessions.....	1885. February...	1	Burglary.	State prison 2 years.
Sessions.....	June	3	Burglary.............	State prison 10 years.
		1	Assault	Fine.
			COUNTY OF SCHUYLER.	
Sessions.....	1885. July........	1	Petit larceny........... ..	Penitentiary 3 months.
		4	Burglary	State prison 5 years.
			COUNTY OF STEUBEN.	
Sessions. . .	1885. December..	1	Rape.	State prison 10 years 6 mos.
			COUNTY OF SUFFOLK.	
Sessions.....	1885. March......	1	Assault	Fine.
		1	Arson and grand larceny...	State prison 5 years.
		1	Burglary............	State prison 10 years.
		1	Grand larceny	House of refuge.
		1	Petit larceny....	Jail 6 months.
		1	Petit larceny	Fine.
		1	Resisting an officer.........	Fine.
		1	Violating excise law... .. .	Fine.
Oyer & Ter..	September.	1	Rape....	State prison 6 years.
		1	Riot.........................	Fine.
		1	Burglary	House of refuge.
		1	Grand larceny........... ...	State prison 3 years.

Table A. — County of Suffolk — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Oyer & Ter..	1885. September.	2	Grand larceny	State prison 2 years.
		1	Assault	State prison 5 years.
		1	Assault	State prison 6 months.
Oyer & Ter..	October ...	1	Assault	State prison 2 years.
		1	Assault	Fine.
		1	Grand larceny	State reformatory.
		1	Grand larceny	State prison 1 year.
		1	Illegal practicing medicine.	Fine.
		3	Misdemeanor	Fine.

COUNTY OF SULLIVAN.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions.....	1885. February...	1	Petit larceny	Jail 3 months.
		1	Assault	State prison 10 years.

COUNTY OF TIOGA.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Oyer & Ter..	1884. December..	1	Assault	State prison 2 years.
		1	Burglary	State prison 1 year.
Sessions.....	1885. February...	1	Assault	Penitentiary 6 months.
		1	Grand larceny	State prison 4 years 6 mos.
		1	Grand larceny	State prison 2 years 6 mos.
		1	Grand larceny	State prison 1 year 2 mos.
		1	Grand larceny	Jail 6 months.
Sessions. ...	September.	1	Assault	House of refuge.
		1	Burglary	State prison 1 year.

COUNTY OF ULSTER.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Oyer & Ter .	1884. November..	1	Burglary	State reformatory.
		1	Murder	Death.
Sessions. ...	1885. March	1	Assault	Fine.
Sessions ...	June	1	Assault	State prison 7 years.
		1	Burglary	State prison 3 years.
		1	Grand larceny	State prison 3 years.

COUNTY OF WARREN.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Oyer & Ter..	1885. March.. ...	1	Rape	State prison 13 years 6 mos.
		1	Robbery	State prison 13 years 6 mos.
Sessions. ...	May	1	Robbery	State prison 8 years.
		1	Robbery	State prison 2 years.
		10	Violation excise law	Fine.

COUNTY OF WESTCHESTER.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions. ...	1884. November..	1	Burglary	Penitentiary 1 year.
		1	Grand larceny	Penitentiary 6 months.
		1	Grand larceny	State prison 4 years 6 mos.
		1	Displacing R. R. signal	State prison 1 year.
		1	Murder	State prison for life.
		1	Prize fighting	Jail 1 month and fine.
		2	Violation excise law	Fine.

COUNTY OF WYOMING.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions	1885. January ...	1	Assault	Penitentiary 10 mos. & fine.
		3	Burglary	State prison 4 y. 8 m. 20 d.
		6	Violation excise law	Fine.
Sessions	June ...	6	Violation excise law	Fine.
		1	Grand larceny	State prison 3 years.
		1	Burglary	State prison 3 years.
Oyer & Ter..	September.	1	Robbery	State prison 20 years.
		1	Assault	State prison 10 years.

Table A. — County of Wyoming — (Continued).

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions.....	1885. October....	8	Violation excise law......	Fine.
		2	Grand larceny	State prison 5 years.
		1	Incest	State prison 10 years.

COUNTY OF YATES.

COURTS.	Date of conviction.	Number of convictions.	Offense.	Sentence.
Sessions....	1885. September.	1	Assault.....	State prison 9 years.
		1	Assault.	Fine.

TABLE B.

Abstract of Convictions for Criminal Offenses by Courts of Record, in the several Counties in the State of New York, for the year ending October 31, 1885.

	Albany.	Broome.	Cattaraugus.	Cayuga.	Chautauqua.	Chemung.	Chenango.	Columbia.	Cortland.	Delaware.	Dutchess.	Erie.	Essex.	Franklin.	Genesee.	Herkimer.	Jefferson.	Kings.	Madison.	Monroe.	Montgomery.	New York.	Niagara.	Oneida.	Onondaga.
Abortion	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Abduction	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	7	...	...	1
Assault	6	1	7	10	1	...	1	...	...	1	5	...	1	...	...	4	2	42	2	17	...	209	2	1	2
Arson	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	1	...	...	...
Attempt at burglary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	57	...	1	...	39	...	...	...
Attempt at escape	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Attempt at grand larceny	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30	...	...	...	39	...	...	...
Attempt at petit larceny	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...
Attempt at forgery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...
Attempt at robbery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...
Attempt at suicide	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Aiding an escape	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bigamy	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	4	...	...	...	10	...	...	2
Bribery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...
Buggery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Burglary	8	2	6	11	4	...	...	...	1	1	5	...	...	...	...	...	5	32	2	12	3	303	8	5	11
Crime against nature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...
Cruelty to children	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
False pretenses	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Forgery	2	...	...	2	...	...	...	...	...	1	2	...	...	...	...	...	...	2	...	2	...	34	2	1	6
Felony	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	31	1	...	...
Gambling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Grand larceny	8	1	1	5	...	1	...	...	1	...	1	...	1	...	2	1	4	37	1	12	1	452	3	1	10
Incest	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Intoxication	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Illegal practice of medicine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Indecent exposure	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	4	...	...	...	...	...	...	...
Indecent language	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Illegal use of dwelling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...
Kidnapping	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Keeping gaming house	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Keeping disorderly house	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	1

Larceny from person	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Libel	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....
Lottery	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
Manslaughter	1	....	....	....	....	....	1	....	....	....	2	2	....	....	....	....	....	2	....	1	....	23	....	1	....
Malicious mischief	....	2	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	1	....	....	....	....	1
Misdemeanor	....	....	....	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....	....	3	....	129	1	1	1
Murder	....	1	1	....	....	....	....	....	....	....	1	2	....	....	....	....	....	1	....	....	....	7	....	....	2
Perjury	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	3	....	....	....
Petit larceny	2	....	....	5	....	....	2	....	....	2	2	....	....	....	....	1	2	3		16	7	221	....	....	2
Prize fighting	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Rape	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....		....	5	1	2	....
Riot	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	4	....
Robbery	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	4	3		....	48	1	2	....
Receiving stolen goods	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	....	....	....	27	....	....	....
Selling obscene literature	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
Seduction	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....
Stoning railroad train	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....		....	....
Trespass	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	1	....	....	....
Violation excise law	....	1	2	2	....	....	2	....	....	....	....	....	14	....	....	....	4	....	....	....	....	....	3	....	4
Violation game laws	....	....	....	....	....	....	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....	....	....	....
Violation health laws	....	....		....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	30	8	17	39	7	1	7	1	5	8	19	4	19	2	2	7	20	244	8	74	11	1,611	22	18	45

Table B. — (Continued).

	Ontario.	Orange.	Orleans.	Otsego.	Putnam.	Queens.	Rensselaer.	Richmond.	Saratoga.	Schenectady.	Schoharie.	Schuyler.	Steuben.	Suffolk.	Sullivan.	Tioga.	Ulster.	Warren.	Westchester.	Wyoming.	Yates.	Total.
Abortion	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Abduction	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
Assault	...	...	...	2	...	10	5	...	7	1	1	...	...	5	1	3	2	...	...	2	2	355
Arson	1	1	...	...	...	3	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	10
Attempt at burglary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	97
Attempt at escape	...	2	...	...	...	...	1	...	...	1	...	...	...	1	...	...	...	...	...	...	...	6
Attempt at grand larceny	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	69
Attempt at petit larceny	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Attempt at forgery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
Attempt at robbery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Attempt at suicide	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Aiding an escape	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Bigamy	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19
Bribery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Buggery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Burglary	1	5	4	1	2	2	11	...	4	5	4	4	...	2	...	2	2	...	1	4	...	473
Crime against nature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Cruelty to children	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
False pretenses	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Forgery	2	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	58
Felony	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	34
Gambling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Grand larceny	10	...	...	1	3	9	16	...	2	1	...	...	...	6	...	4	1	...	2	3	...	601
Incest	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	2
Intoxication	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Illegal practice of medicine	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2
Indecent exposure	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Indecent language	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Illegal use of dwelling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Kidnapping	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Keeping gaming house	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Keeping disorderly house	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Larceny from person	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Libel	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Lottery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Manslaughter	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	34

Malicious mischief	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
Misdemeanor	...	...	...	...	...	...	1	...	...	...	...	...	...	3	...	...	...	...	...	...	...	141
Murder	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	20
Perjury	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Petit larceny	3	1	...	...	...	2	1	...	3	1	...	1	...	2	1	...	...	...	...	...	...	280
Prize fighting	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	3
Rape	...	...	...	...	1	1	...	...	...	1	...	...	1	1	...	...	...	1	...	...	...	18
Riot	4	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	11
Robbery	...	...	...	...	...	...	3	...	...	1	...	...	...	...	...	...	...	3	...	...	...	66
Receiving stolen goods	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33
Selling obscene literature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Seduction	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Stoning railroad train	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Trespass	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	4
Violation excise law	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	10	2	20	...	65
Violation game laws	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Violation health laws	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Total	23	11	7	5	6	30	43	1	19	11	5	5	1	24	2	9	6	14	8	30	2	2,491

TABLE C.

Number of males and females convicted of criminal offenses by courts of record in the State of New York, during the year ending October 31, 1885, with the classification of such offenses.

OFFENSES AGAINST THE PERSON.

Crimes.	Males.	Females.
Abduction	3	6
Assault	344	13
Assault on officer	3	......
Attempted suicide	2	2
Attempted crime against nature	1	......
Cruelty to children	1	......
Kidnapping	1	......
Manslaughter	31	3
Murder	19	2
Oppression	1	......
Rape	19	......
Seduction	5	......
Total	430	26

OFFENSES AGAINST PROPERTY WITH VIOLENCE.

Attempted burglary	99	......
Attempted robbery	8	......
Burglary	448	11
Injury to property	2	......
Robbery	70	......
Total	627	11

OFFENSES AGAINST PROPERTY WITHOUT VIOLENCE.

Arson	7	......
Attempt grand larceny	76	6
Attempt arson	1	......
Attempt petit larceny	3	.....
False pretenses	1	......
Grand larceny	568	42
Malicious mischief	6	......
Larceny from the person	1	......
Petit larceny	316	72
Receiving stolen goods	19	5
Total	998	125

OFFENSES AGAINST THE CURRENCY.

Attempt at forgery	4	.....
Forgery	37	......
Total	41	......

OFFENSES NOT INCLUDED IN FOREGOING.

Crimes.	Males.	Females.
Abortion	1	......
Accessory to felony	1	......
Attempt to escape	1	......
Attempt perjury	1	......
Aiding an escape	1	......
Bigamy	13	......
Crime against nature	1	...
Defacing railroad signal	1	......
Defrauding	3	......
Disorderly person	1	......
Escape	1	......
Excluding colored person from skating rink	1	......
Felony	29	......
Gambling	2	......
Indecent exposure	6	......
Illegal use of dwelling	2	......
Incest	2	......
Illegal practice of medicine	1	......
Kidnapping	1	......
Keeping disorderly house	2	3
Keeping gambling house	1	......
Libel	1	......
Misdemeanor	72	......
Prize fighting	2	......
Perjury	3	......
Riot	11	......
Selling obscene literature	1	......
Stoning railroad train	1	......
Trespass	3	......
Violating health law	1	......
Violating game law	2	......
Violating excise law	35	26
	204	29
Grand total	2, 300	191

TABLE D.

Number of convictions by courts of record in the State of New York for the fifty-six years commencing with 1830, and ending with 1885, with classification of crimes.

CRIME.	1830.	1831.	1832.	1833.	1834.	1835.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.
OFFENSES AGAINST THE PERSON.																	
Abandonment																	
Abortion																	
Administering poison																	
Abandoning infant												1					1
Abduction of females under 14 years							1	1		1	5				1	1	
Abduction									1			1					
Accessory to assault, etc., with intent to kill									1								
Accessory to murder	1																
Accessory to rape																1	1
Affray													9		8	5	
Assault						6	4	5	14	5	7	3	16	11	17	15	11
Assault and battery	170	192	197	309	146	230	255	221	209	205	324	3 2	341	281	283	330	281
Assault and battery and affray									2	2							
Assault and battery and false imprisonment									1				1	5	7		
Assault, intent to ravish																	
Assault and cutting																	
Assault and trespass																	
Assau t on public officer																	
Assault, etc., with intent to maim									1					1	1	1	4
Assault, etc., with intent to kill	18	12	2	9	13	12	15	19	17	15	18	13	11	17	13	16	18
Assault, etc., with intent to commit larceny														1			
Assault, etc , with intent to commit rape	5	8	11	3	8	4	10	9	7	11	17	7	5	5	11	19	10
Assault with deadly weapon												2					
Assault, etc., with intent to commit manslaughter												2					
Assault, etc., with intent to rob										1	1			1	1		
Assault and rescue													1			2	
Assault, with intent to do bodily harm																	
Assembling in disguise armed, riot, ass'lt & battery																1	
Assisting to commit a rape																	
Attempt to murder							2										
Attempt to poison								1	1								
Attempt to procure an abortion												1	3				
Burglary, rape, and robbery															1		
Cruelty to children																	
Decoying children under 12 years of age										1		1					
Incest and rape					1												
Inciting another to kill																	1
Inveigling								5								1	2
Kidnapping		1														23	6
Larceny from person																7	8

Maiming						2			1	1	1						
Manslaughter	6	6	5	7	6	8	6	6	8	9	10	11	11	6	12		
Murder	3	2		2	3	3	4	3	4	5	7	5	5	3	3		3
Poisoning and assault										1						4	7
Poisoning with intent to kill							1		1			2	1		2		
Procuring abortion												1	1		3	6	
Rape	6	3	4	3	7	5	3	3	7	5	3	2	5	5	4	39	31
Riot and affray												6		1			
Riot and assault											20		3	3	14		
Riot, assault and battery	28	18	70	29	30	17	45	33	12	24	50	63	71	66	13		
Riot, assault and battery, and aiding an escape																	
Riot, assault and battery, and rescue												5					
Seduction																	
Sodomy																	
	237	242	289	362	214	287	316	393	296	287	463	458	484	408	394	471	384
OFFENSES AGAINST PROPERTY WITH VIOLENCE.																	
Attempt to commit larceny																	
Accessory to burglary and larceny											1					2	
Attempt to commit burglary								2	1	1		1	2	9	6	6	3
Attempt at felony																	
Attempt to rob								1			1	1					1
Burglary	95	81	74	66	90	88	79	108	90	74	21	52	28	31	21	25	16
Burglary and arson										1							
Burglary and larceny	3							7	16	34	85	63	130	194	139	136	112
Felony																	
Forcible entry														4			
Petit larceny from the person																	
Robbery	4	12	5	9	9	4	7	6	5	5	12	4	15	6	6	8	6
Robbery after a felony																	
	102	93	79	75	99	92	86	124	112	115	120	121	175	244	172	177	133
OFFENSES AGAINST PROPERTY WITHOUT VIOLENCE.																	
Accessory to arson													1				
Accessory to grand larceny															1	2	1
Arson	4	2	8	9	6	6	3	6	4	11	4	9	11	14	7	12	9
Attempt to commit arson								1				1	1	1			1
Attempt to commit grand larceny									1			1			2	1	3
Attempt to commit petit larceny									3	1	1	2	1		2	2	4
Attempt to obtain property by false pretenses									1			1					1
Buying pretended title to land												3	7			2	
Embezzlement					3	2	2	2	3		2	4	4	3	2	1	
Fraudulent concealment of property										1			1	3		1	
Grand larceny	195	199	194	180	149	220	220	211	201	181	190	225	207	219	190	200	193
Grand larceny in a dwelling																	
Grand larceny, and receiving stolen goods												1					
Larceny, second offense										10							

Table D.— (Continued).

CRIME.	1830.	1831.	1832.	1833.	1834.	1835.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.
Obtaining property by false pretenses	7	12	15	30	11	20	7	19	9	15	17	23	14	32	27	35	22
Obtaining signature by false pretenses	....	....	....	....	....	....	....	....	....	1	....	1	2	1	1	1	2
Petit larceny	225	127	121	162	19	16	110	159	185	185	146	131	160	146	147	129	171
Petit larceny, after conviction of felony	....	....	....	....	....	....	....	....	....	....	6	....	9	11	16	1	7
Petit larceny, second offense	55	112	96	61	53	54	35	71	15	58	59	41	67	57	76	52	43
Petit larceny and receiving stolen property, etc	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....
Receiving stolen property	16	12	6	20	14	8	2	8	14	14	11	15	12	16	18	20	14
Removing property with intent to defraud cred'trs	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Selling pretended title to land	....	....	....	....	....	....	....	....	....	....	....	2	7	1	....	....	....
False pretenses	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	502	464	440	462	355	426	379	477	472	479	437	460	504	504	489	467	471
OFFENSES AGAINST THE CURRENCY.																	
Accessory to forgery	....	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....
Counterfeiting	2	3	2	....	....	....	3	6	7	4	....	....	....	....	....	....	....
Forgery	56	45	46	40	39	23	21	25	27	35	48	47	63	77	60	54	38
Having counterfeit money in possession, etc.	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
Passing counterfeit money	16	12	12	21	14	11	8	21	8	11	....	2	....	....	....	....	....
	74	63	60	61	53	34	32	52	42	51	49	49	63	78	60	54	38
OTHER OFFENSES NOT INCLUDED IN THE FOREGOING.																	
Accessory to felony	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Advertising lottery tickets for sale	....	....	....	....	....	....	....	....	....	....	4	....	....	....	....	....	....
Aiding an escape	....	....	....	....	....	....	....	....	4	1	3	5	2	2	3	3	....
Aiding an escape and riot	....	....	....	....	....	....	....	....	....	....	....	....	1	4	....	....	....
Aiding and assisting in horse-racing	....	....	....	....	....	....	....	....	....	....	....	....	1	2	3	1	....
Aiding & ass'tng in horse-racing & k'png ga'mg h'se	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
Allowing liquor to prisoners	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....
Appearing in disguise	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Assembling in disguise and armed	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	29	....
Assembling in disguise armed, and riot	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....
Assembling in disguise armed, and conspiracy	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....
Attempt to break jail	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	3	2
Attempt to bribe an elector	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....
Attempt to commit crime against nature	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....
Attempt to extort	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Attempt to rescue	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Winning or losing at play $25 in 24 hours	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
Bigamy	5	5	4	3	2	8	4	4	5	12	10	6	9	10	8	11	8
Blasphemy	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....

Breaking jail	19	7	4	7	5	8		2	4	5	6	5		3	6	6	2
Breach of the peace																	
Bribery at election														1			
Buggery																	
Carrying liquor in jail									1			2			2		2
Carrying slung-shot																	
Cheating						1	3	1	1	2							
Compounding petit larceny														1			
Compounding misdemeanor															1		
Conspiracy	4	13	9	1	3	7	6				4	1	11	8	5	3	3
Conspiracy and false imprisonment										2							
Conspiracy and libel											2						
Conspiracy and riot											5						
Contempt of court								1	2								
Crime against nature	1	1	2	1	1	1				3	2	2	1	1		1	
Criminal contempts														1	2		1
Cruelty to animals									2	3		1	1	5	2	1	
Disorderly persons								3									
Embezzlement																	
Escapes																	1
Exposing the person																	
Extortion						1					1	1	1		1		1
Ferrying without license											2	9	4	1			
Gaming								1					1				1
Giving liquor to prisoners									1	1							
Giving or receiving a challenge to fight a duel													1				
Horse-racing	23								2			3	6	1	4	6	7
Illegally offering to vote															4		1
Illegal voting											5	3	3	5	7	4	5
Illegal registering name as voter												1					
Incest			1	4			5	2	1	1	2			1	1	1	1
Intoxication																	
Indecent exposure										6	2	1		1	1	2	5
Insuring lottery tickets										1							
Insuring numbers in lottery										2	1	4	2				2
Keeping disorderly or bawdy house	32	14	18	27	11	25	16	13	20	3	20	114	54	42	53	56	55
Keeping dis'dly house, & selling liquor with'ut l'nse											8			2		3	5
Keeping bawdy-house, & selling liquor without l'nse																29	3
Keeping gaming-house											10	15	11	7	17	9	28
Keeping gaming-h'se, & selling liquor without l'nse													1		1		
Keeping lottery-office																	1
Letting bawdy house										1		3	3				
Libel	5			4		2	3	2		5	4	1	7	16	9	4	5
Malicious mischief																	
Malpractice as physician																	1
Marrying married person																1	
Mayhem																	
Misdemeanor	12	23	30	66	69	71	66	31	15	9		4				6	
Nuisance	6	3	3	6	3	5	2	2	3		9	1	12	3	8	15	18
Official malpractice											1		3	6	1	2	2

Table D.— (Continued).

CRIME.	1830.	1831.	1832.	1833.	1834.	1835.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.
Obstructing railroad track																	
Opening sealed letter															1	1	
Perjury	13	6	7	9	9	8	4	3	6	3	12	3	9	10	9	9	3
Piloting without license													1	2			
Prize fighting																	
Procuring illegal voters											1						
Publishing obscene papers, etc													8	4			
Receiving dead bodies, etc																1	
Refusing to assist an officer									2			1	1	1		1	
Rescue					2				1	1	1	2	1				
Resisting public officer																	
Riot	10	11	5	18	39	63	36	30	21	23	72	82	66	42	22	24	44
Riot and attempt at rescue											1						
Riot and trespass														9	2		
Selling goods at auction contrary to law																3	
Selling liquor to Indians									2	1						5	10
Selling liquor without license						21		43	59	59	86	118	128	130	117	237	302
Selling liquor to minors																	
Selling liquor without license and to Indians																6	3
Selling lottery tickets										1	7	10	5	4	5	1	3
Selling unwholesome provisions												1					
Selling liquor on Sunday																	
Solicitation to commit felony																	
Setting up lottery											2						
Selling obscene prints																	
Stakeholding										1					1		
Sodomy																	
Subornation of perjury							1									1	
Tavern sign, erecting without license																	
Trespass	5	11	15	6	4	16	4	7	11	8	8	14	23	7	11	18	13
Trespass on Indian lands													1			11	
Unlawful assembly													2				
Usury									1	1	2	3	2	1	2	1	1
Violating quarantine law										1							
Violating the grave															1		1
Violating gambling law																	
Violating emigrant law																	
Writing threatening letter																	
Not given																	
Violating excise laws																	
Voting illegally																	
Violating game law																	
	144	94	98	153	148	237	150	145	164	186	274	427	376	336	312	520	440
Total	1,059	956	956	1,113	869	1,076	963	1,091	1,086	1,118	1,343	1,515	1,062	1,570	1,427	1,689	1,571

Table D.—(Continued).

CRIME.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857	1858.	1859.	1860.	1861.	1862.	1863.
OFFENSES AGAINST THE PERSON.																	
Abandonment																	
Abortion																	
Administering poison														3			
Abandoning infant	1	1	1					1									1
Abduction of females under 14 years																	2
Abduction		9	1	3								1	2	2			
Accessory to assault, etc., with intent to kill												7					
Accessory to murder																	
Accessory to rape																	
Affray	2																
Assault	8	9	10	5	16	15	5	3	19	22	38	36	14	5		14	12
Assault and battery	252	302	265	282	256	267	299	256	260	273	211	259	279	377	325	226	240
Assault and battery and affray					22	8											
Assault and battery and false imprisonment		4															
Assault, intent to ravish														5			
Assault and cutting			1														
Assault and trespass			1							1							
Assault on public officer														10	7	8	11
Assault, etc., with intent to maim	3													1			
Assault, etc., with intent to kill	15	23	21	24	31	33	29	24	17	24	22	24	26	56	80	34	21
Assault, etc., with intent to commit larceny																	
Assault, etc., with intent to commit rape	12	15	18	15	15	15	19	16	14	9	22	13	14	12	21	8	13
Assault with deadly weapon						10		22	19	22		1		48			19
Assault, etc., with intent to commit manslaughter	1																1
Assault, etc., with intent to rob	2	2	2	7	3		5	5	6	9	8	17	23	18	10	6	
Assault and rescue	7									4							9
Assault with intent to do bodily harm														2			13
Assembling in disguise, armed, riot, as'lt & battery																	
Assisting to commit a rape				1						1							
Attempt to murder													2				
Attempt to poison													2				
Attempt to procure abortion		1		1						1			1				
Burglary, rape and robbery																	
Cruelty to children																	
Decoying children under 12 years of age		1															
Incest and rape						2							1				
Inciting another to kill	1																
Inveigling																	
Kidnapping																	1
Larceny from person															38	22	
Maiming		1		2						8				1			
Manslaughter	12	15	21	22	20	12	23	33	20	20	30	37	29	32	43	35	31
Murder	4	4	3	3	16	12	13	9	8		6	11	7	7	15	11	12

Table D.— (Continued).

CRIME.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.
Poisoning and assault	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Poisoning with intent to kill	....	....	3	2	....	....	....	....	....	....	....	....	....	....	....	....	....
Procuring abortion	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Rape	6	7	10	4	8	....	11	17	8	15	13	7	13	17	20	11	12
Riot and affray	....	....	....	....	....	14	77	....	....	....	....	....	....	....	....	....	....
Riot and assault	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	13
Riot, assault and battery	8	50	35	20	18	21	3	33	23	12	24	20	9	3	....	....	15
Riot, assault and battery, and aiding an escape	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Riot, assault and battery, and rescue	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Seduction	....	1	....	....	4	2	....	1	1	2	1	....	3	....	3	1	1
Sodomy	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	395	443	393	391	409	411	482	420	395	425	375	434	425	599	562	377	428
OFFENSES AGAINST PROPERTY WITH VIOLENCE.																	
Attempt to commit larceny	....	....	....	....	....	....	....	....	....	....	....	....	....	29	26	39	58
Accessory to burglary and larceny	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Attempt to commit burglary	5	3	2	9	4	3	....	4	5	19	33	38	52	19	23	10	16
Attempt at felony	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	....	....
Attempt to rob	1	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....
Burglary	18	24	65	114	90	130	152	137	226	178	220	205	184	247	230	124	108
Burglary and arson	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Burglary and larceny	90	75	71	57	42	78	11	36	19	39	59	65	83	57	23	23	33
Felony	....	....	....	....	....	....	....	....	....	....	....	....	....	4	10	1	1
Forcible entry	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Petit larceny from the person	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Robbery	17	18	11	19	12	17	22	12	16	12	38	21	22	25	24	15	27
Robbery after a felony	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	132	120	150	199	148	228	185	189	268	248	340	329	341	381	340	215	241
OFFENSES AGAINST PROPERTY WITHOUT VIOLENCE.																	
Accessory to arson	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Accessory to grand larceny	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Arson	7	8	12	12	13	12	8	11	12	8	14	12	10	18	16	19	11
Attempt to commit arson	....	1	....	1	....	....	....	1	....	....	10	2	10	....	....	....	3
Attempt to commit grand larceny	3	4	1	....	7	1	....	13	18	22	34	60	....	....	....	....	....
Attempt to commit petit larceny	....	2	1	1	....	....	6	....	....	....	....	....	93	....	....	....	....
Attempt to obtain property by false pretenses	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Buying pretended title to land	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Embezzlement	2	6	2	....	1	2	4	7	3	2	4	2	....	....	....	....	....
Fraudulent concealment of property	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Grand larceny	155	218	250	240	249	286	336	273	249	264	264	263	295	292	284	213	270
Grand larceny in a dwelling	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Grand larceny and receiving stolen goods	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

Larceny, second offense	....	....	....	....	....	....	....	....	....	10	42	....	....	....	....	....	1
Obtaining property by false pretenses	21	25	15	23	15	14	21	24	19	11	20	12	7	20	29	24	15
Obtaining signature by false pretenses	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Petit larceny	149	164	187	192	134	123	131	197	225	206	204	205	....	150	218	162	190
Petit larceny after conviction of felony	7	13	9	2	....	....	....	3	....	....	....	1	5	10	....	....	70
Petit larceny, second offense	34	51	43	36	42	33	51	28	20	33	....	....	....	63	48	20	27
Petit larceny and receiving stolen property, etc	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Receiving stolen property	15	17	25	13	14	9	16	23	28	17	15	20	19	13	24	11	8
Removing property with intent to defraud cred'tr	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Selling pretended title to land	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
False pretenses	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	396	512	545	321	475	480	573	580	574	573	607	577	439	566	619	449	595
OFFENSES AGAINST THE CURRENCY.																	
Accessory to forgery	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Counterfeiting	....	....	....	....	....	8	....	6	4	....	....	....	....	....	....	....	....
Forgery	24	33	37	25	44	37	48	59	33	47	59	90	89	100	147	70	58
Having counterfeit money in possession, etc	....	....	....	....	....	....	....	6	....	....	....	....	....	....	....	....	3
Passing counterfeit money	....	....	6	11	5	5	4	4	....	2	4	....	....	21	3	5	6
	24	33	43	36	49	50	52	75	37	49	63	90	89	121	150	75	68
OTHER OFFENSES NOT INCLUDED IN FOREGOING.																	
Accessory to felony	....	1	....	....	4	9	....	....	....	....	....	....	....	....	....	3	3
Advertising lottery tickets for sale	....	4	....	....	....	....	....	3	....	....	....	....	....	1	....	....	....
Aiding an escape	2	1	1	....	....	....	17	2	1	....	....	2	1	2	....	2	2
Aiding an escape, and riot	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Aiding and assisting in horse-racing	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Aiding and assisting in horse-racing & k'p g'm h's	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Allowing liquor to prisoners	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Appearing in disguise	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....
Assembling in disguise and armed	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Assembling in disguise armed, and riot	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Assembling in disguise armed and conspiracy	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Attempt to break jail	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Attempt to bribe an elector	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Attempt to commit crime against nature	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Attempt to extort	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Attempt to rescue	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Winning or losing at play $25 in 24 hours	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Bigamy	10	17	11	13	12	21	8	12	5	11	17	10	11	8	9	9	22
Blasphemy	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	....	....
Breaking jail	6	1	5	4	8	9	3	9	3	6	....	4	5	2	....	1	3
Breach of the peace	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	1	2
Bribery at election	....	....	1	....	....	....	....	....	....	....	....	....	4	....	....	....	....
Buggery	....	....	....	....	....	....	....	....	....	....	....	....	1	4	....	....	....
Carrying liquor in jail	....	1	2	2	1	....	....	....	....	....	....	....	1	....	....	....	....
Carrying slung-shot	....	....	....	3	3	3	8	5	3	3	1	....	....	3	....	1	1

Table D.— (Continued).

CRIME.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.
Compounding misdemeanor									4	2							
Conspiracy	6	2		9													
Conspiracy and false imprisonment																	
Conspiracy and libel																	
Conspiracy and riot																	
Contempt of court										1				2			
Crime against nature	2		2			2											
Criminal contempts																	
Cruelty to animals		6			1										3	1	
Disorderly persons					3				2	1	23	3	1				
Embezzlement														4	4	2	7
Escapes				2													
Exposing the person				3	2	2	7	5	8	2		1			5	4	1
Extortion		1															
Ferrying without license																	
Gaming				1	1			10	3	3	1		2		3		4
Giving liquor to prisoners																	
Giving or receiving a challenge to fight a duel																	
Horse-racing	1	1					2										
Illegally offering to vote	3		1														
Illegal voting	2	6	5	4	2	3	3	6	20	2	3	12	6	5	5	3	
Illegally registering name as voter											1						
Incest	2								2	2	1	2	2	3			2
Intoxication												21	5	22	22	8	9
Indecent exposure		5	1										2	10			
Insuring lottery tickets																	
Insuring numbers in lottery	2		1														
Keeping disorderly or bawdy-house	38	52	57	41	15	38	2	56	33	29	31	26	29	26	36	39	14
Keeping disorderly h'se and selling liq'r with'ut lic	1	3	2				10										1
Keeping bawdy-h'se and selling liquor without lic.																	
Keeping gaming-house	12	17	20	16	14	6	14	26	17	14	13	12	12	8	4	8	5
Keeping gaming-house, and selling l'qr without lic	3																
Keeping bawdy-house								1									
Letting bawdy-house																	1
Libel		2		3	4	1	1	14	3	1				3		1	
Malicious mischief			2	4	9	2	14		3	5	16	2	19	12	18	3	5
Malpractice as physician	2																
Marrying married person																	1
Mayhem												2	5				
Misdemeanor							91	23	2	32	19			31	9	41	15
Nuisance	10	15		10	12	1	8	15	8	12	3	2	3	7	2	8	10
Official malpractice	1	1						1	3								

Obstructing railroad track													3	2			
Opening sealed letter			1														
Perjury	3	2	6	9	7	3	4	1	3	6	2	2	6	9		4	4
Piloting without license																	
Prize fighting														5			
Procuring illegal voters																	
Publishing obscene papers, etc	1	2	1	1													
Receiving dead bodies, etc																	
Refusing to assist an officer																	
Rescue	2																
Resisting public officer		2	4	6				10	2	5				3			
Riot	44	91	74	69	93	69		91	54	38			22	16	23	29	4
Riot and attempt at rescue																	34
Riot and trespass																	
Selling goods at auction contrary to law										2							
Selling liquor to Indians	3	4	8									2		2			
Selling liquor without license	229	159	272	178	200	256	341	508	358	26	12	94	361	338	439	323	216
Selling liquor to minors														1			
Selling liquor without license and to Indians	3																1
Selling lottery tickets	5	10	7	4	4	6		9	9	1		1	3	3	5	11	2
Selling unwholesome provisions													1				
Selling liquor on Sunday														2			
Solicitation to commit felony																	
Setting up lottery		1															
Selling obscene prints																	
Stakeholding																	
Sodomy																	
Subornation of perjury								1									
Tavern sign, erecting without license		1	1														
Trespass	12	13	10	21	5	4	3	19	4			8			11	1	6
Trespass on Indian lands		1															
Unlawful assembly																	
Usury									1			1			1		
Violating quarantine law																	
Violating the grave	2			1													
Violating gambling law																	
Violating emigrant law		1															
Writing threatening letter					1												
Not given					1		17	26	5	8	25						
Violating excise laws																	
Voting illegally																	
Violating game laws																	
	40	425	404	410	401	434	553	853	556	212	168	206	505	545	604	500	372
Total	1,294	1,527	1,531	1,552	1,482	1,602	1,844	2,117	1,830	1,507	1,554	1,712	2,091	1,601	1,671	1,616	1,644

Table D. — (Continued).

CRIME.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.
OFFENSES AGAINST THE PERSON.																	
Abandonment	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Abortion	...	...	...	...	1	...	...	...	3	2	1	1	2	2	2	3	6
Administering poison	...	...	1	...	...	...	2	...	...	1	...	1	...	...	...	...	3
Abandoning infant	2	3	...	2	...	...	...	21	...	1	...	...	1	...	...	...	...
Abduction of females under 14 years	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...
Abduction	...	...	...	...	...	...	...	1	...	...	...	1	...	4	2	1	3
Accessory to assault, etc., intent to kill	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Accessory to murder	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
Accessory to rape	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Affray	...	...	...	1	...	...	...	...	...	5	...	...	2	111	2	...	...
Assault	17	11	11	12	11	...	...	...	17	37	20	26	36	...	44	21	...
Assault, 3d degree	208	243	317	313	322	336	264	251	285	334	296	324	303	315	345	280	207
Assault and battery and affray	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Assault and battery and false imprisonment	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Assault, intent to ravish	...	...	5	...	...	...	...	1	...	...	...	...	...	...	6	...	...
Assault and cutting	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Assault and trespass	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Assault on public officer	9	...	9	...	9	5	4	2	22	7	10	7	18	11	3	10	...
Assault, etc., with intent to maim	...	10	1	20	23	...	...	...	...	...	...	...	14	...	1	2	...
Assault, etc., with intent to kill	12	16	16	16	33	23	31	32	26	45	55	32	30	25	22	13	33
Assault, etc., intent to commit larceny	...	...	...	...	...	...	...	...	...	...	...	...	9	3	13	...	...
Assault, etc., intent to commit rape	5	14	14	12	18	19	20	17	22	26	16	20	24	16	21	15	9
Assault with deadly weapon	12	24	15	16	15	2	5	6	38	30	14	44	10	14	87	78	30
Assault, etc., intent to commit manslaughter	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Assault, etc., with intent to rob	6	19	13	...	10	11	8	17	1	11	4	72	3	...	4	5	2
Assault and rescue	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Assault with intent to do bodily harm	13	...	22	...	...	34	47	48	32	51	34	42	84	27	22	60	63
Assembling in disguise armed, riot, assault & bat'ry	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Assisting to commit a rape	...	...	...	...	...	...	...	...	...	...	2	2	2	...	...	...	...
Attempted assault	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Attempt to commit crime against nature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Attempt to murder	...	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Attempt to poison	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Attempt to procure abortion	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Attempted sodomy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Attempted rape	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Attempted suicide	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burglary, rape and robbery	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...
Cruelty to children	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
Decoying children under 12 years of age	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Felonious assault	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Incest								2			3						3
Inciting another to kill																	
Inveigling																	
Kidnapping	1										6				2		
Larceny from person	24		45		29	34	64	70	62	83	101	163	194	45	188	163	
Maiming					1							7	1	1			
Manslaughter	40	36	35	23	29	29	33	51	38	55	39	46	19	20	37	24	30
Murder	12	18	15	15	13	17	15	18	9	13	24	24	19	16	17	18	15
Poisoning and assault																	
Poisoning with intent to kill																	
Procuring abortion																	
Rape	6	11	12	16	16	18	15	16	16	13	17	20	20	24	12	11	16
Riot and affray	30		8														
Riot and assault																	
Riot, assault and battery	20	10	12	6	16	33		16	17	2	4	3	4	8			
Riot, assault and battery and aiding an escape																	
Riot, assault and battery and rescue																	
Seduction	3		3	1	4	2		4	1	5	4	1	2	2	3	4	2
Sodomy					2	1	2			3	1	2	1			1	2
	420	417	555	453	555	564	510	554	591	722	651	840	801	647	835	655	422
OFFENSES AGAINST PROPERTY WITH VIOLENCE.																	
Attempt at larceny from person																	
Attempt to commit larceny	61		2			1						168	22		18	23	
Accessory to burglary and larceny					1										3		
Attempt to commit burglary	3	39	83	62	57	51	86	56	95	125	202	159	38	63	70	50	47
Attempt at felony	5																
Attempt to rob			2								16	15	9	7	2	17	13
Burglary	48	124	264	228	245	277	229	278	183	282	377	459	647	689	652	458	504
Burglary and arson																	
Burglary and larceny	29	51	64	61	69	100	60	95	76	40	62	52	112	190	194	150	
Burglary and receiving stolen goods																	
Destroying property																	
Injuring property																	
Felony	1		5						2	23	2	3	2	8	13	6	3
Forcible entry	2							5									
Petit larceny from the person														178			194
Robbery	20	45	47	40	45	36	67	45	51	55	57	61	2	66	61	27	27
Robbery after felony														4			
	169	289	467	391	417	465	442	479	407	525	716	917	832	1,205	1,013	731	788
OFFENSES AGAINST PROP'TY WITHOUT VIOLENCE.																	
Accessory to arson																	
Accessory to grand larceny															1		
Arson	13	17	17	18	27	14	21	17	11	13	18	24	30	26	25	21	19
Attempt to commit arson			5		3	4			2		4	2	2	4	1	1	
Attempt to commit grand larceny		176	164	188	115	82	83	84	157	197	406			18			30

Table D. — (Continued).

CRIME.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.
Attempt false pretenses																	
Attempt to commit petit larceny			11		5				2	39				15			
Attempt to obtain property by false pretenses										2							2
Buying pretended title to land																	
Blackmail																	
Constructive larceny																	
Disturbing oyster beds																	
Destroying highway																	
Embezzlement	2	5	7	9	7	14	6	7	5	7	2	12	12	13	18	16	7
Embezzlement and grand larceny																	
Extortion																	
Fraudulent concealment of property																	
Grand larceny	247	477	574	531	449	497	450	455	347	451	488	533	624	606	614	419	412
Grand larceny in a dwelling														3			
Grand larceny and robbery																	
Grand larceny and receiving stolen goods			1														
Larceny, 2d offense			2	4	7				16	20				40			
Obtaining property by false pretenses	7	13	26	29	38	21	30	23	23	33	23	23	70	20	76		42
Obtaining signature by false pretenses																	
Petit larceny	137	181	256	245	244	251	223	234	223	372	399	346	366	447	382	298	386
Petit larceny after conviction of felony		1	3		4							10	4	3	5		
Petit larceny, 2d offense	17	26	26	11	24	20	15	28			19	30	19	23	13	15	
Petit larceny and receiving stolen property, etc													1				
Petit larceny from person																	
Receiving stolen property	11	11	27	28	13	11	13	16	6	26	38	49	58	48	88	55	70
Removing property with intent to defraud creditor																	
Selling mortgaged property																	
Selling pretended title to land																	
False pretenses											25	27	1	38		40	
	436	907	1,119	1,063	936	914	841	864	792	1,160	1,422	1,056	1,187	1,304	1,223	876	968
OFFENSES AGAINST THE CURRENCY.																	
Accessory to forgery																	
Attempted forgery																	
Counterfeiting		1	1			7		3	1						1		
Forgery	51	46	50	49	41	41	31	51	38	50	59	87	86	103	102	74	56
Having counterfeit money in possession, etc																	
Passing counterfeit money	9	5	2				1										
	60	52	53	49	41	48	32	54	39	50	59	87	86	103	103	74	56

Other Offenses not Included in Foregoing.																	
Attempted suicide																	
Attempt at forgery																	
Accessory to felony		16	1	5	5												
Advertising lottery tickets for sale																	
Aiding an escape	4						2	2	1	3	4		2	1	2	1	
Aiding an escape, and riot																	
Aiding and assisting in horse-racing																	
Aiding & assisting in horse-racing, k'png ga'g he.																	
Allowing liquor to prisoners																	
Appearing in disguise.																	
Assembling in disguise armed, and riot																	
Assembling in diguise armed, and conspiracy																	
Attempt to break jail	2																
Attempt to bribe an elector					2	1	3	1	3						1	3	
Attempt to commit crime against nature																	
Attempt to extort													1				
Attempt to rescue			2														
Winning or losing at play $25 in 24 hours																	
Bigamy	11		1														
Blasphemy	2	14	19	17	21	12	20	17	8	15	21	20	24	21	31	27	22
Breaking jail	4																
Breach of the peace	1	2	5	2	5	5	6	5	8		6	6	3	5	7		6
Bribery at election			1		5	1								1			
Buggery													1				
Careless use of fire-arms						1											
Carrying concealed weapons																	
Carrying liquor in jail																	
Carrying slung-shot																	
Cheating		5	4	2	3	5	1	10	7	10	20	15	5	6			3
Compounding petit larceny																	
Compounding misdemeanor																	
Conspiracy																	
Conspiracy and false imprisonment			4		8	7							4	2	6	3	
Conspiracy and libel																	
Conspiracy and riot																	
Contempt of court																	
Conversion												1		1			
Crime against nature																	
Criminal contempts												2	2				1
Cruelty to animals					7	5	9	4		1			1				
Common scold									13	10	2	3	14	3	1		1
Carrying burglar's tools																	1
Impersonating an officer																	1
Common gambler																	1
Disturbing religious meeting																	3
Stoning railroad train																	
Violating plankroad law																	1
Poisoning well																	1
Embezzlement and larceny	7				15				2	2	1						

Table D. — (Continued).

CRIME.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.
Escapes																	
Exposing the person				7	7		2	8					8		6	8	
Extortion										2					1	1	
Felony																	
Ferrying without license	4																
Gaming		4	1	13	2					19	5	1	14	3			
Giving liquor to prisoners																	
Giving or receiving a challenge to fight a duel																	
Horse-racing																	
Illegally offering to vote																	
Illegal voting					5	7	4		3				6				
Illegal registering name as voter	3												3	1			
Incest			2			1									4	1	
Interfering with officer	6																
Intoxication	1	3	9		22						1			3	2		
Indecent exposure			5		6	4			3	7	5	5		6			7
Insuring lottery tickets					1												
Insuring numbers in lottery																	
Keeping disorderly house	5	42	16	33	41	45	18	39	35	26	10	12	13	30	19	25	24
Keeping disorderly house and selling liquor without license	27																
Keeping bawdy-house and selling liquor without license																	
Keeping gaming-house	10	4	12	20	11	23	9	8	22	2	13	6		13	12	17	
Keeping gaming-house and selling liquor without license																	
Keeping lottery office																	
Letting bawdy-house		1															
Libel			1	6		3	3	3	1			1	2		1	1	
Malicious mischief	10	12	4	7	3	11	6	13	9	6	6	9	2	7	6	3	5
Malicious trespass																	
Malpractice as physician																	
Marrying married person		1							2	1							
Mayhem	2		1				1	1	1	1							1
Misdemeanor	4	171	17	100	9	37	24	13	15	26	45	37	8	108	120	70	228
Nuisance	4	10	4	6	2				9	11					2		6
Official malpractice			1														6
Obscenity																	
Obstructing highway																	
Obstructing railroad track		1											3		3		2
Opening sealed letter																	
Perjury	2	1	4	2	2	9	8	4	3	2	8	11	5	33	7	7	8

Piloting without license					3												
Practicing as a physician unlicensed																	
Prize fighting			1														
Procuring illegal voters																	
Publishing obscene papers, etc					1				1				5				
Receiving dead bodies, etc																	
Refusing to assist an officer					1								3				
Rescue									3								
Resisting public officer			3		4	5	2	2	1	3	1	7	1	2	3		2
Riot			9	39	9		15	47	50	13	24	15	2	49	15	9	10
Riot and attempt at rescue		12	33														
Riot and trespass																	
Running ferry unlawfully																	
Selling goods at auction contrary to law																	
Selling liquor to Indians					1	1											
Selling liquor without license	233	68	301	272	177	253	180	206	250	101	88		5	31			225
Selling liquor to minors									3	14							
Selling liquor without license, and to Indians																	
Selling lottery tickets	3		1	5	2	2		3	1	3	1	3	1	2			
Selling unwholesome provisions	1				1			1									
Selling liquor on Sunday			7		1				13	21	31						
Solicitation to commit felony														1			
Setting up lottery			3												1		
Selling obscene prints														6	1		
Selling unstamped oleomargarine																	4
Sodomy														2			
Subornation of perjury													1				
Tavern sign, erecting without license																	
Trespass		1		1					2	2					12	3	6
Trespass on Indian lands																	
Trespass on railroad																	
Unlawful assembly	1																
Usury				1		9		1					1				
Violating quarantine law							1										
Violating the grave																	
Violating the gambling law														5			
Violating the emigrant law																	
Writing threatening letter		1															
Not given			1	65			10			157		6					14
Violating the excise law											227	354	403	212	388	700	
Voting illegally											1	9	2	4	3		4
Violating game law														11			1
	336	369	473	860	381	471	324	389	469	462	520	523	545	568	655	880	595
Total	1,430	2,036	2,665	2,559	2,384	2,463	2,151	2,340	2,298	2,919	3,368	3,423	3,451	3,827	3,829	3,216	2,847

Table D.—(Continued).

CRIME.	1881.	1882.	1883.	1884.	1885.
OFFENSES AGAINST THE PERSON.					
Abandonment	2	.....	.....	.....	.....
Abortion	.....	1	.....	.....	.....
Administering poison	.....	.....	.....	.....	.....
Abandoning infant	.....	.....	.....	.....	.....
Abduction of females under 14 years	.....	.....	.....	.....	.....
Abduction	3	1	.....	1	10
Accessory to assault, etc., intent to kill	.....	.....	.....	.....	.....
Accessory to murder	.....	.....	.....	.....	.....
Accessory to rape	.....	.....	.....	.....	.....
Affray	.....	.....	3	.....	.....
Assault	8	19	.....	316	320
Assault, 3d degree	160	179	167	.....	.....
Assault and battery and affray	2	.....	.....	.....	.....
Assault and battery and false imprisonment	.....	.....	.....	.....	.....
Assault, intent to ravish	.....	20	.....	.....	.....
Assault and cutting	.....	.....	.....	.....	.....
Assault and trespass	.....	.....	.....	.....	.....
Assault on public officer	3	3	1	1	.....
Assault, etc., with intent to maim	.....	.....	.....	.....	.....
Assault, etc., with intent to kill	31	30	19	.....	.....
Assault, etc., intent to commit larceny	.....	.....	.....	.....	.....
Assault, etc., intent to commit rape	6	.....	.....	.....	1
Assault with deadly weapon	36	6	.....	.....	.....
Assault, etc., intent to commit manslaughter	.....	.....	.....	.....	.....
Assault, etc., with intent to rob	3	.....	.....	.....	.....
Assault and rescue	.....	.....	.....	.....	.....
Assault with intent to do bodily harm	63	69	100	.....	.....
Assembling in disguise armed, riot, assault and battery	19	.....	.....	.....	.....
Assisting to commit a rape	4	.....	.....	13	.....
Attempted assault	.....	.....	2	1	.....
Attempt to commit crime against nature	.....	1	.....	.....	1
Attempt to murder	.....	.....	.....	.....	.....
Attempt to poison	.....	.....	.....	.....	.....
Attempt to procure abortion	.....	.....	.....	.....	.....
Attempted sodomy	.....	.....	3	.....	.....
Attempted rape	.....	.....	5	.....	.....
Attempted suicide	.....	.....	.....	1	.....
Burglary, rape and robbery	.....	.....	.....	.....	.....
Cruelty to children	.....	.....	.....	.....	1
Decoying children under 12 years of age	.....	.....	.....	.....	.....
Felonious assault	.....	2	.....	.....	.....
Incest	2	.....	5	.....	2
Inciting another to kill	.....	.....	.....	.....	.....
Inveigling	.....	.....	.....	.....	.....
Kidnapping	.....	.....	.....	.....	1
Larceny from person	26	225	34	.....	.....
Maiming	.....	.....	.....	.....	.....
Manslaughter	25	40	25	16	36
Murder	13	15	9	18	15
Poisoning and assault	.....	.....	.....	.....	.....
Poisoning with intent to kill	.....	.....	.....	.....	.....
Procuring abortion	.....	.....	.....	.....	.....
Rape	6	18	13	12	18
Riot and affray	.....	.....	.....	.....	.....
Riot and assault	15	.....	.....	.....	.....
Riot, assault and battery	.....	.....	.....	.....	.....
Riot, assault and battery and aiding an escape	.....	.....	.....	.....	.....
Riot, assault and battery and rescue	.....	.....	.....	.....	.....
Seduction	2	1	.....	6	4
Sodomy	3	1	1	1	.....
	643	631	386	386	409
OFFENSES AGAINST PROPERTY WITH VIOLENCE.					
Attempt at larceny from person	.....	17	2	.....	.....
Attempt to commit larceny	.....	.....	.....	.....	.....
Accessory to burglary and larceny	.....	.....	.....	.....	.....
Attempt to commit burglary	72	101	82	67	88
Attempt at felony	.....	.....	.....	.....	.....
Attempt to rob	.....	5	4	8	.....
Burglary	391	387	350	409	446
Burglary and arson	.....	.....	.....	.....	.....
Burglary and larceny	101	74	43	.....	.....
Burglary and receiving stolen goods	.....	.....	1	.....	.....

Table D.—(Continued).

CRIME.	1881.	1882.	1883.	1884.	1885.
Destroying property				1	
Injuring property				1	
Felony	6		25		
Forcible entry					
Petit larceny from the person	176				
Robbery	44	46	62	49	68
Robbery after felony	1				
	617	630	569	535	602
OFFENSES AGAINST PROPERTY WITHOUT VIOLENCE.					
Accessory to arson					
Accessory to grand larceny					
Arson	13	9	5	11	11
Attempt to commit arson	1	2	2	3	
Attempt to commit grand larceny	38	24	29	55	50
Attempt false pretenses				2	
Attempt to commit petit larceny		10	3	5	3
Attempt to obtain property by false pretenses		1	1		1
Buying pretended title to land					
Blackmail				4	
Constructive larceny			1		
Disturbing oyster beds		4	1		
Destroying highway				1	
Embezzlement	5	17	4	3	
Embezzlement and grand larceny			2		
Extortion				2	
Fraudulent concealment of property					
Grand larceny	393	435	598	567	605
Grand larceny in a dwelling					
Grand larceny and robbery			1		
Grand larceny and receiving stolen goods	2	5	1		
Larceny, second offense					
Obtaining property by false pretenses	9	58	22	6	
Obtaining signature by false pretenses					
Petit larceny	321	439	361	390	415
Petit larceny after conviction of felony	8	3		2	
Petit larceny, second offense	19	20	9	3	
Petit larceny and receiving stolen property, etc	2				
Petit larceny from person				1	
Receiving stolen property	67	41	23	39	35
Removing property with intent to defraud creditor					
Selling mortgaged property		1		4	
Selling pretended title to land					
False pretenses	53				1
	1,025	1,069	1,063	2,000	1,121
OFFENSES AGAINST THE CURRENCY.					
Accessory to forgery					
Attempted forgery			1	4	
Counterfeiting					
Forgery	57	53	42	36	56
Having counterfeit money in possession, etc				1	
Passing counterfeit money					
	57	53	43	41	56
OTHER OFFENSES NOT INCLUDED IN FOREGOING.					
Attempted suicide			1		4
Attempt at forgery		1			8
Accessory to felony			1		1
Advertising lottery tickets for sale					
Aiding an escape	1	2	5		2
Aiding an escape, and riot					
Aiding and assisting in horse-racing					
Aiding and assisting in horse-racing, k'ping gambling house					
Allowing liquor to prisoners					
Appearing in disguise					
Assembling in disguise and armed					
Assembling in disguise armed and riot					
Assembling in disguise armed and conspiracy					
Attempt to break jail					
Attempt to bribe an elector					
Attempt to commit crime against nature					
Attempt to extort					
Attempt to rescue					
Winning or losing at play $25 in 24 hours			1		
Bigamy	21	21	15	13	18

Table D. — (Continued).

CRIME.	1881.	1882.	1883.	1884.	1885.
Blasphemy	....	....	....	....	....
Breaking jail	2	1	6	3	....
Breach of the peace	....	....	....	....	....
Bribery at election	....	....	....	....	2
Buggery	....	....	....	....	....
Careless use of fire-arms	....	1	1	....	....
Carrying concealed weapons	....	3	1	2	....
Carrying liquor in jail	....	....	....	....	....
Carrying slung-shot	6	....	....	....	....
Cheating	....	....	....	....	....
Compounding petit larceny	....	....	....	....	....
Compounding misdemeanor	....	....	....	....	....
Conspiracy	....	2	....	3	....
Conspiracy and false imprisonment	....	....	....	....	....
Conspiracy and libel	....	....	....	....	....
Conspiracy and riot	....	....	....	....	....
Contempt of court	....	....	....	....	....
Conversion	....	1	....	....	....
Crime against nature	1	....	....	2	1
Criminal contempts	....	....	....	....	....
Cruelty to animals	....	....	....	1	....
Common scold	....	....	....	....	....
Carrying burglar's tools	....	1	....	4	....
Impersonating an officer	....	....	....	....	....
Common gambler	....	....	....	....	....
Disturbing religious meeting	....	....	2	3	....
Stoning railroad train	....	2	....	....	1
Violating plankroad law	....	....	....	....	....
Poisoning well	....	....	....	....	....
Embezzlement and larceny	....	1	....	....	....
Escapes	....	....	....	1	2
Exposing the person	....	....	....	....	3
Extortion	....	2	....	....	....
Felony	....	3	....	18	39
Ferrying without license	1	....	....	....	....
Gaming	....	....	3	42	2
Giving liquor to prisoners	....	....	....	....	....
Giving or receiving challenge to fight a duel	....	....	....	....	....
Horse-racing	....	....	....	....	....
Illegally offering to vote	....	....	....	....	....
Illegal voting	....	1	....	1	....
Illegal registering name as voter	....	....	....	....	....
Incest	....	3	....	1	....
Interfering with officer	....	....	1	....	....
Intoxication	....	1	3	....	2
Indecent exposure	8	7	3	7	2
Insuring lottery tickets	....	....	....	....	....
Insuring numbers in lottery	....	....	....	....	....
Keeping disorderly house	14	13	17	11	6
Keeping disorderly house and selling liquor without license	....	....	....	....	....
Keeping bawdy house and selling liquor wiihout license	....	....	....	....	....
Keeping gaming-house	10	25	1	1	1
Keeping gaming-house and selling liquor without license	....	....	....	....	....
Keeping lottery office	....	....	....	....	....
Letting bawdy-house	....	....	....	....	2
Libel	....	5	....	6	1
Malicious mischief	4	1	2	1	9
Malicious trespass	....	3	....	....	....
Malpractice, as physician	1	....	....	....	....
Marrying married person	....	....	....	....	....
Mayhem	....	1	....	....	....
Misdemeanor	174	115	281	103	112
Nuisance	2	4	3	1	....
Official malpractice	1	....	....	....	....
Obscenity	....	....	3	....	2
Obstructing highway	....	1	....	....	....
Obstructing railroad track	....	1	....	2	....
Opening sealed letter	....	....	....	....	....
Perjury	7	6	5	5	3
Piloting without license	....	....	....	....	....
Practicing as a physician unlicensed	....	1	1	....	2
Prize fighting	....	....	....	1	2
Procuring illegal voters	....	....	....	....	....
Publishing obscene papers, etc	....	....	....	....	....
Receiving dead bodies, etc	....	....	....	....	....
Refusing to assist an officer	....	....	....	....	....
Rescue	2	....	....	....	....
Resisting public officer	1	3	1	....	3

Table D.—(Continued)

CRIME.	1881.	1882.	1883.	1884.	1885.
Riot	......	3	4	10	8
Riot and attempt at rescue	......	......	......	......	......
Riot and trespass	......	......	......	......	......
Running ferry unlawfully	......	......	1	......	......
Selling goods at auction contrary to law	......	......	......	......	......
Selling liquor to Indians	......	......	......	......	......
Selling liquor without license	84	......	......	......	16
Selling liquor to minors	......	......	......	......	10
Selling liquor without license and to Indians	......	......	......	......	......
Selling lottery tickets	2	1	......	......	1
Selling unwholesome provisions	......	......	......	......	......
Selling liquor on Sunday	42	......	......	......	......
Solicitation to commit felony	......	......	......	......	......
Setting up lottery	......	......	......	......	......
Selling obscene prints	......	......	......	......	1
Selling unstamped oleomargarine	......	......	......	......	......
Sodomy	......	......	......	......	......
Subornation of perjury	......	......	......	......	......
Tavern sign, erecting without license	......	......	......	......	......
Trespass	5	2	......	......	3
Trespass on Indian lands	......	......	......	......	......
Trespass on railroad	......	......	......	1	1
Unlawful assembly	......	......	7	......	......
Usury	......	......	......	......	......
Violating quarantine law	......	......	......	......	......
Violating the grave	......	......	......	......	......
Violating the gambling law	......	......	......	......	......
Violating the emigrant law	......	......	......	......	......
Writing threatening letter	......	......	......	......	......
Not given	......	......	......	......	......
Violating the excise law	116	253	17	6	30
Voting illegally	2	......	3	......	......
Violating game law	1	3	20	4	3
	581	494	413	252	303
Total	2,923	2,877	2,474	2,315	2,491

TABLE E.

Giving the ages, nativity and social relations of persons convicted in courts of record of the several counties, as reported to the office of Secretary of State by the sheriffs of the respective counties, for the year ending October 31, 1885.

COUNTY OF ALBANY.

	Grand larceny.	Petit larceny.	Assault.	Burglary.	Manslaughter.	Forgery.	Rape.	Bigamy.	Receiving stolen goods.	Keeping gambl'g house.	Total.
Number reported	17	14	11	17	1	2	1	3	1	2	69
Males	17	13	11	17	...	2	1	3	1	2	67
Females	..	1	...	....	1	....		...	.....	.....	2
From 15 to 21 years of age	5	3	2	6	....	...	1	1	....	.....	18
From 21 to 25 years of age	4	4	1	3	....	...	....	...	.....	....	12
From 25 to 30 years of age	5	2	2	2	..	....	...	1	1	2	15
From 30 to 40 years of age	3	3	2	3	1	...		1	.....	.....	13
From 40 to 50 years of age	...	1	2	3	...	2	....	....	....	....	8
From 50 to 60 years of age	1	....	1	..	....	....	..	..	....	.....	2
Over 60 years of age	...	1	....	....	....	....	....	...	.....	.....	1
Married	5	3	6	4	1	2	....	3	1	....	25
Single	12	10	5	15		.	1	...	.....	2	44
Natives of United States	12	12	8	15	...	1	1	1	1	.....	51
Natives of Ireland	2	1	2	..	1	...	....	....	.....	....	6
Natives of Germany	1	3	....	...	....	1	....	2	....	....	7
Natives of England	....	....	2	...	...	...	....	...	....	.....	2
Other foreign countries	3	.	..	.	....	...	....	...	.....	.....	3
Can read and write	16	12	10	16	....	2	1	..	1	2	60
Cannot read or write	1	2	1	1	1	....	....	3	....	....	9
Had religious instruction	15	14	11	17	1	2	1	3	1	2	68
Never had religious instruction	1	...	..	...	...	..	....	....	.....	....	1
Parents living	9	6	5	4	....	...	1	1	1	2	29
Father living	2	1	3	2	...	2	...	....	.....	.....	10
Mother living	2	2	1	6	....	...	....	....	......	.....	11
Parents dead	4	6	2	5	1	....	....	2	......	.....	19
Before convicted	1	2	1	5	...	1	..	..	.....	.....	10
Never before convicted	16	12	10	12	1	1	1	3	1	2	59
Temperate	12	12	7	16	..	...	....	....	.....	.....	56
Intemperate	5	2	4	1	1	...	....	...	......	..	13

COUNTY OF BROOME.

	Grand larceny.	Assault.	Manslaughter.	Burglary.	Murder.	Robbery.	Perjury.	Forgery.	Keeping gambl'g rooms.	Total.
Number reported	....	.	...	...		...	...	...	...	16
Males	4	3	1	3	1	1	1	1	1	16
From 15 to 21 years of age	1	...	...	1	....	....	....	1	1	4
From 21 to 25 years of age	....	3	..	...	....	..	...	...	......	3
From 25 to 30 years of age	....	....	...	2	1		.	...	.....	3
From 30 to 40 years of age	2	...	1	...	....	1	...	..	....	4
From 50 to 60 years of age	1	....	....	..	...	....	...	..	......	1
Over 60 years of age	...	....	....	....	...	...	1	.	.....	1
Married	2	...	...	2	..	1	1	....	.....	6
Single	2	3	1	1	1	..	...	1	1	10
Natives of United States	2	3	1	3	....	1	1	1	1	13
Natives of Germany	....	....	...	....	1	...	....	...	......	1

Table E. — County of Broome — (Continued).

	Grand larceny.	Assault.	Manslaughter.	Burglary.	Murder.	Robbery.	Perjury.	Forgery.	Keeping gambling rooms.	Total.
Natives of England	1	....	...	....	....	...	...	...	......	1
Other foreign countries	1	...	....	....	...	...	.	...	......	1
Unknown	....	...	....	....	....	...	....	....	......	16
Had religious instruction	4	3	1	3	1	1	1	1	1	16
Parents living	1	2	1	...	1	...	1	....	....	6
Mother living	1	1	....	1	....	..	....	....	1	4
Parents dead	2	....	....	2	...	1	1	....	......	6
Before convicted	2	....	...	2	1	....	...	....	.....	5
Never before convicted	2	2	1	1	...	...	...	....	1	7
Unknown	4	....	...	...	....	...	...	...	.....	4
Temperate	2	..	....	....	1	....	1	1	1	6
Intemperate	2	3	1	3	...	1	....	...	....	10

COUNTY OF CATTARAUGUS.

	Grand larceny.	Burglary.	Murder.	Assault.	Total.
Number reported	2	5	1	9	17
Males	2	5	1	9	17
Under 15 years of age	.....	1	....	... ...	1
From 21 to 25 years of age	1	1	... .	3	5
From 25 to 30 years of age	1	.... ..	1	2	4
From 30 to 40 years of age	....	2	....	4	6
From 40 to 50 years of age	1	....	....	.. ....	1
Married	1	1	.... ..	1	3
Single	1	4	1	8	14
Natives of United States	1	5	1	4	11
Natives of Ireland	....	....	.. . ..	5	5
Natives of Germany	1	.. ....	....	....	1
Can read and write	2	4	2	9	17
Had religious instruction	1	....	1	5	7
Never had religious instruction	1	5	... .	4	10
Parents living	1	....	....	3	4
Father living	....	2	....	....	2
Mother living	....	1	1	1	3
Parents dead	1	2	....	5	8
Before convicted	1	4	1	4	10
Never before convicted	1	1	......	5	7
Intemperate	2	5	1	9	17

Table E.—(Continued).

COUNTY OF CAYUGA.

	Forgery.	Burglary.	Abortion.	Grand larceny.	Assault.	Petit larceny.	Escape.	Violation excise law.	Total.
Number reported	1	10	1	2	2	4	1	2	23
Males	1	10	1	2	2	4	1	2	23
Under 15 years of age	....	2	....	....	....	....	....	....	2
From 15 to 21 years of age	....	4	....	1	....	....	....	....	5
From 21 to 25 years of age	....	3	....	....	....	....	1	....	4
From 25 to 30 years of age	1	....	....	1	1	2	....	....	5
From 30 to 40 years of age	....	2	....	....	....	2	....	....	4
From 50 to 60 years of age	....	....	....	....	1	....	....	2	3
Married	1	2	....	1	1	1	....	2	8
Single	....	7	2	1	1	3	....	1	15
Natives of United States	1	9	1	2	1	2	....	....	16
Natives of Ireland	....	1	....	....	....	1	1	....	3
Natives of Germany	....	....	....	....	....	1	....	....	1
Other foreign countries	....	....	....	....	1	....	....	....	1
Unknown	....	....	....	....	....	....	....	2	2
Can read and write	1	10	1	2	1	4	1	2	22
Cannot read or write	....	....	....	....	1	....	....	....	1
Had religious instruction	1	10	1	3	2	4	1	2	23
Parents living	....	9	1	....	....	2	....	....	12
Father living	....	....	....	1	1	1	....	....	3
Mother living	1	....	....	1	....	....	1	....	3
Parents dead	....	1	....	....	....	1	....	....	2
Unknown	....	....	....	....	1	....	....	2	3
Unknown	1	10	1	2	2	4	1	2	23
Temperate	....	5	1	....	....	1	....	....	7
Intemperate	1	5	....	1	2	3	1	....	13
Unknown	....	....	....	1	....	....	....	2	3

COUNTY OF CHAUTAUQUA.

	Assault.	Grand larceny.	Burglary.	Forgery.	Petit larceny.	Extortion.	Disorderly house.	Selling obscene pictures.	Bigamy.	Total.
Number reported	4	1	7	1	3	1	3	1	1	22
Males	4	1	7	1	3	1	2	1	1	21
Females	....	....	....	....	....	....	1	....	....	1
From 15 to 21 years of age	....	....	3	....	3	....	....	....	....	6
From 21 to 25 years of age	2	1	1	....	....	....	....	....	....	4
From 30 to 40 years of age	....	....	1	....	....	....	1	1	....	3
From 40 to 50 years of age	1	....	....	....	....	1	....	....	....	2
From 50 to 60 years of age	1	....	....	1	....	....	....	....	1	3
Over 60 years of age	....	....	1	....	....	....	1	....	....	2
Unknown	....	....	....	....	....	....	....	....	....	1
Married	3	....	3	2	1	1	3	....	....	13
Single	1	1	4	....	1	....	....	1	1	9
Natives of United States	2	....	7	1	3	1	3	1	1	19
Natives of Ireland	1	1	....	....	....	....	....	....	....	2
Other foreign countries	....	....	....	....	....	....	....	....	....	1
Unknown	4	1	7	1	3	1	3	1	1	22
Had religious instruction	....	....	....	....	....	....	....	....	....	22
Parents living	2	1	4	....	1	1	....	....	....	9
Father living	1	....	....	....	....	....	....	....	....	1
Mother living	1	....	1	....	1	....	....	1	....	4
Parents dead	1	....	3	....	....	....	2	....	1	7
Unknown	....	....	....	....	....	....	1	....	....	1
Before convicted	2	1	4	....	....	1	2	1	1	12
Never before convicted	....	....	....	....	1	....	....	....	....	1
Unknown	3	2	....	1	2	....	1	....	....	9
Intemperate	4	1	2	1	3	....	2	1	1	15
Unknown	....	....	5	....	....	1	1	....	....	7

Table E. — (Continued).

COUNTY OF CHEMUNG.

	Assault.	Forgery.	Grand larceny.	Burglary.	Escape.	Secreting personal property.	Petit larceny.	Total.
Number reported	3	6	7	4	1	1	2	24
Males	3	6	7	4	1	1	2	24
Under 15 years of age	....	....	1	....	....	....	....	1
From 15 to 21 years of age	....	....	1	2	....	....	....	3
From 21 to 25 years of age	....	....	2	2	....	....	....	4
From 25 to 30 years of age	1	2	....	....	1	....	....	4
From 30 to 40 years of age	1	3	3	....	....	1	....	8
From 40 to 50 years of age	1	1	....	....	....	....	1	3
From 50 to 60 years of age	....	....	....	....	....	....	1	1
Married	2	5	4	1	....	....	2	14
Single	1	1	4	2	1	1	....	10
Natives of United States	2	6	4	4	1	1	....	18
Natives of Ireland	....	....	....	....	....	....	1	1
Natives of Germany	....	....	2	....	....	....	1	3
Unknown	....	....	....	....	....	....	....	2
Can read and write	1	2	1	1	1	1	....	7
Cannot read or write	....	1	1	3	....	....	....	5
Unknown	2	3	4	1	....	....	2	12
Unknown	....	....	....	....	....	....	....	24
Unknown	....	....	....	....	....	....	....	24
Before convicted	1	1	....	....	....	....	....	2
Never before convicted	....	2	2	2	....	....	1	7
Unknown	2	3	4	2	....	1	3	15

COUNTY OF CLINTON.

	Burglary.	Total.		Burglary.	Total.
Number reported	3	3	Can read only	1	1
Males	3	3	Had religious instruction	3	3
From 15 to 21 years of age	1	1	Parents living	1	1
From 21 to 25 years of age	2	2	Father living	2	2
Single	3	3	Before convicted	1	1
Natives of United States	2	2	Never before convicted	2	2
Natives of Germany	1	1	Temperate	3	3
Can read and write	2	2			

COUNTY OF ERIE.

	Grand larceny.	Burglary.	Assault.	Robbery.	Forgery.	Murder.	Crime against nature.	Incest.	Receiving stolen goods.	False pretenses	Disorderly person	Carrying concealed weapons	Total.
Number reported	49	50	8	3	3	3	1	1	2	1	1	1	123
Males	49	50	7	3	3	3	1	1	1	1	1	1	121
Females	....	....	1	....	....	....	....	....	1	....	....	....	2
From 15 to 21 years of age	10	18	....	1	....	....	1	....	....	....	....	....	30
From 21 to 25 years of age	10	16	3	2	1	1	....	....	....	....	....	....	33
From 25 to 30 years of age	9	6	1	....	1	....	....	....	1	....	....	....	18
From 30 to 40 years of age	15	6	2	....	1	1	....	1	1	1	1	....	29
From 40 to 50 years of age	3	4	1	....	....	....	....	....	....	....	....	....	8

Table E.— County of Erie—(Continued).

	Grand larceny.	Burglary.	Assault.	Robbery.	Forgery.	Murder.	Crime against nature.	Incest.	Receiving stolen goods.	False pretense.	Disorderly pers'n.	Carry'g conceal'd weapons.	Total.
From 50 to 60 years of age	1		1			1						1	4
Over 60 years of age	1												1
Married	8	7	1			2		1	2		1		22
Single	41	43	7	3	3	1	1			1		1	101
Natives of United States	43	45	5	3	3	1	1	1		1	1	1	105
Natives of England						1							1
Other foreign countries	6	5	3			1			2				17
Can read and write	45	45	2	3	3	3	1	1	2	1	1	1	108
Cannot read or write	4	5	6										15
Unknown	49	50	8	3	3	3	1	1	2	1	1	1	123
Parents living	46	48	7	3	3	1	1	1	2	1	1	1	115
Father living	2		1										3
Mother living	1												1
Parents dead		2				2							4
Never before convicted						1							1
Unknown	49	50	8	3	3	2	1	1	2	1	1	1	122
Intemperate	49	50	8	3	3	3	1	1	2	1	1	1	123

COUNTY OF ESSEX.

	Grand larceny.	Total.		Grand larceny.	Total.
Number reported	1	1	Can read and write	1	1
Males	1	1	Unknown	1	1
From 21 to 25 years of age	1	1	Parents dead	1	1
Single	1	1	Unknown	1	1
Natives of United States	1	1	Intemperate	1	1

COUNTY OF FRANKLIN.

	Burglary.	Grand larceny.	Petit larceny.	Assault.	Crime against nature.	Total.
Number reported	5	4	1	1	1	12
Males	5	4	1	1	1	12
From 15 to 21 years of age	3				1	4
From 21 to 25 years of age	1	1	1	1		4
From 40 to 50 years of age	1	1				2
From 50 to 60 years of age		2				2
Married	2	2	1			5
Single	3	2		1	1	7
Natives of United States	4	2	1	1	1	9
Natives of Canada	1	2				3
Can read and write	4	2				6
Cannot read or write					1	1
Unknown	1	2	1	1		5
Had religious instruction	4	3			1	8
Unknown	1	1	1	1		4
Parents living	2				1	3
Unknown	3	4	1	1		9

Table E. – County of Franklin — (Continued).

	Burglary.	Grand larceny.	Petit larceny.	Assault.	Crime against nature.	Total.
Before convicted	1	2	1			4
Never before convicted	4	1			1	6
Unknown		1		1		2
Temperate	2	1			1	4
Intemperate		2				2
Unknown	3	1	1	1		6

COUNTY OF FULTON.

	Assault.	Grand larceny.	Total.		Assault.	Grand larceny.	Total.
Number reported	1	2	3	Unknown	1	2	3
Males	1	2	3	Parents living	1		1
From 15 to 21 years of age		1	1	Mother living		1	1
From 30 to 40 years of age	1	1	2	Parents dead		1	1
Married	1		1	Before convicted	1		1
Single		2	2	Never before convicted		2	2
Natives of United States	1	2	3	Temperate		2	2
Can read and write	1	2	3	Intemperate	1		1

COUNTY OF GENESEE.

	Abandonment.	Burglary.	Attempt at burglary.	Carry'g conceal'd weapons.	Grand larceny.	Petit larceny.	Total.
Number reported	1	2	2	1	1	2	9
Males		2	2	1	1	2	8
Females	1						1
From 15 to 21 years of age				1			1
From 21 to 25 years of age	1				1	1	3
From 25 to 30 years of age		1	2			1	4
From 30 to 40 years of age		1					1
Married		1					1
Single	1	1	2	1	1	2	8
Natives of United States	1	2	2			2	7
Natives of England				1			1
Natives of Canada					1		1
Can read and write	1	2	2		1	2	8
Unknown				1			1
Unknown	1	2	2	1	1	2	9
Parents living	1	1					2
Mother living					1	2	3
Parents dead		1	2				3
Unknown				1			1
Before convicted		1					1
Never before convicted	1	1	2		1	2	7
Unknown				1			1
Temperate	1				1		2
Intemperate		2					2
Unknown			2	1		2	5

Table E.—(Continued).

COUNTY OF JEFFERSON.

	Arson.	Assault.	Burglary.	Grand larceny.	Petit larceny.	Violating excise law.	Total.
Number reported	1	2	2	1	2	1	9
Males	1	2	2	1	2	1	9
From 21 to 25 years of age	......	......	......	......	2	......	2
From 25 to 30 years of age	......	1	2	1	......	......	4
From 30 to 40 years of age	1	......	......	......	......	1	2
From 50 to 60 years of age	......	1	......	......	......	......	1
Married	1	1	2	1	1	1	7
Single	......	1	......	......	1	......	2
Natives of United States	......	2	2	1	1	1	7
Natives of Canada	1	......	......	......	1	......	2
Can read and write	1	2	2	1	2	1	9
Had religious instruction	......	......	......	......	1	......	1
Unknown	1	2	2	1	1	1	8
Parents living	1	......	2	......	1	......	4
Mother living	......	2	......	......	1	1	4
Parents dead	......	......	......	1	......	......	1
Before convicted	1	1	......	......	1	......	3
Never before convicted	......	1	2	1	1	1	6
Temperate	1	......	2	......	1	......	4
Intemperate	......	2	......	1	1	1	5

Table E. — (Continued).

COUNTY OF KINGS.

	Assault.	Bigamy.	Burglary.	Attempted burglary.	Carrying concealed weapons	Disorderly house.	Forgery.	Attempted forgery.	Grand larceny.	Attempted grand larceny.	Indecent exposure.	Manslaughter.	Misdemeanor.	Murder, 2d degree.	Gambling.	Perjury.	Attempted kidnapping.	Receiving stolen goods.	Attempted rape.	Malicious mischief.	Pool selling.	Possessing indecent article.	Petit larceny.	Total.
Number reported	31	2	30	35	1	2	1	1	19	28	3	1	1	1	1	1	1	7	2	3	2	1	7	181
Males	31	2	30	35	1	1	1	1	19	27	3	1	1	1	1	...	...	7	2	3	2	1	5	175
Females	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	1	...	...	...	...	...	2	6
Under 15 years of age	2	...	...	1	...	...	...	...	...	2	...	...	...	...	...	...	...	...		...	...	...	...	5
From 15 to 21 years of age	2	...	9	12	...	...	...	...	4	6	1	...	...	...	...	...	...	2	...	...	...	...	2	38
From 21 to 25 years of age	6	1	12	6	1	...	...	...	5	10	...	...	...	...	1	1	...	2	...	2	...	...	...	47
From 25 to 30 years of age	12	...	4	4	...	...	...	...	5	4	1	...	...	...	...	...	...	1	...	1	1	1	3	37
From 30 to 40 years of age	5	1	4	8	...	2	...	1	2	4	1	1	...	...	...		...	2	1	...	1	...	2	35
From 40 to 50 years of age	2	...	...	3	...	...	1	...	1	2	...	...	1	...	...	...	1	...	...	...	...	...	...	11
From 50 to 60 years of age	2	...	...	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	5
Over 60 years of age	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	3
Married	10	2	3	6	1	1	1	1	6	10	1	...	1	1	...	...	1	1	2	...	2	1	1	52
Single	21	...	27	29	...	1	...	...	13	18	2	1	...	...	1	1	...	6	...	3	...	...	6	129
Natives of United States	22	1	25	33	1	2	1	...	12	23	2	...	...	...	1	...	...	4	1	3	1	...	3	135
Natives of Ireland	6	...	1	1	...	...	...	1	3	1	...	...	1	1	...	1	1	...	...	...	...	...	2	19
Natives of Germany	3	1	2	1	...	...	...	...	1	2	1	...	...	...	...	...	...	1	1	...	1	1	2	17
Natives of England	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	3
Natives of Scotland	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Other foreign countries	...	...	1	...	...	...	...	...	2	1	...	1	...	...	...	...	...	...	...	...	...	...	...	5
Unknown	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Can read and write	30	2	30	35	1	2	1	1	18	28	3	1	1	1	1	1	1	6	2	3	2	1	7	178
Cannot read or write	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	3
Unknown	31	2	30	35	1	2	1	1	19	28	3	1	1	1	1	1	1	7	2	3	2	1	7	181
Parents living	19	1	19	22	1	...	1	...	11	18	2	1	...	1	1	1	...	7	...	3		1	6	115
Father living	5	1	4	3	...	...	...	...	...	3	...	...	...	...	...	...	1	...	...	...	1	...	...	18
Mother living	2	...	4	4	...	...	...	1	4	6	1	...	...	...	...	...	...	...	...	...	1	...	1	24
Parents dead	5	...	3	6	...	2	...	...	4	1	...	...	1	...	...	...	...	...	2	...	...	...	...	24
Before convicted	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Never before convicted	30	2	29	35	1	2	1	1	18	28	3	1	1	1	1	1	1	7	2	3	2	1	7	178
Temperate	8	1	3	2	1	2	...	1	2	8	...	...	...	...	1		...	...	...	...	2	1	2	34
Intemperate	23	1	27	33	...	...	1	...	17	20	3	1	1	1	...	1	1	7	2	3	...	...	5	147

Table E. — (Continued).

COUNTY OF MADISON.

	Assault.	Burglary and larceny.	Grand larceny.	Petit larceny.	Robbery.	Total.
Number reported	6	3	2	3	3	17
Males	6	3	2	3	3	17
From 15 to 21 years of age	2			1	2	5
From 21 to 25 years of age	2	2			1	5
From 25 to 30 years of age				1		1
From 30 to 40 years of age		1				1
From 40 to 50 years of age	1		2			3
From 50 to 60 years of age	1			1		2
Married	2	2	2	1		7
Single	4	1		2	3	10
Natives of United States	3	3	2	3	3	14
Natives of Ireland	1					1
Natives of Germany	1					1
Natives of England	1					1
Can read and write	2	2	2	2	1	9
Cannot read or write	1	1			2	4
Unknown	3			1		4
Had religious instruction	4	2	2	2		10
Never had religious instruction	2	1		1	3	7
Parents living	1	3	2	1	1	8
Father living					1	1
Mother living	1			1		2
Parents dead	4			1	1	6
Before convicted		1			1	2
Never before convicted	2	2		1	2	7
Unknown	4		2	2		8
Temperate				1		1
Intemperate	6	3	2	2	3	16

COUNTY OF MONROE.

	Arson.	Assault.	Bribery.	Burglary.	Attempt at burglary.	Destroying personal property.	Forgery.	Grand larceny.	Petit larceny.	Libel.	Receiving stolen goods.	Total.
Number reported	1	12	2	8	2	1	2	5	13	1	2	49
Males	1	12	2	8	2	1	2	5	12	1	2	48
Females									1			1
Under 15 years of age					1							1
From 15 to 21 years of age		1		4				2	4		1	12
From 21 to 25 years of age		3		3	1			2	3		1	13
From 25 to 30 years of age	1	2	1	1		1	2	1	2			11
From 30 to 40 years of age		3							3			6
From 40 to 50 years of age		2							1			3
From 50 to 60 years of age		1										1
Unknown			1							1		2
Married		4		1			2	1	2			10
Single	1	8	1	7	2	1		4	11		2	37
Unknown			1							1		2
Natives of United States	1	8	1	5	1		1	3	8		1	29
Natives of Ireland		1		1								2
Natives of Germany		2				1						3
Natives of England									4		1	5
Natives of Canada				2	1			1				4
Other foreign countries		1					1	1	1			4
Unknown			1							1		2
Can read and write	1	12	1	8	2	1	2	3	13		2	45
Cannot read or write								2				2

Table E.—County of Monroe — (Continued).

	Arson.	Assault.	Bribery.	Burglary.	Attempt at burglary.	Destroying personal property.	Forgery.	Grand larceny.	Petit larceny.	Libel.	Receiving stolen goods.	Total.
Unknown	..	...	1	..	.. .	.....	...	...	...	1	.....	2
Had religious instruction	1	12	...	8	1	1	2	4	10	....	2	41
Never had religious instruction	..	....		....	1	.. ...	..	1		..	......	2
Unknown	.		2	....	.. ..	.. ..	.		3	1	.. ..	6
Unknown	1	12	2	8	2	1	2	5	13	1	2	49
Before convicted	...	7	...	3	2	.. ..	...	3	4	..	.....	19
Never before convicted	1	5	1	5	.....	1	2	2	9	....	2	28
Unknown	. ..	....	1	. .	.. ..	.....	....	.	...	1	.....	2
Unknown	1	12	2	8	2	1	2	5	13	1	2	49

Table E. — (Continued).

COUNTY OF NEW YORK.

	Abandonment.	Abduction.	Assault.	Attempt at ass'lt.	Arson.	Adulterat'd milk.	Bigamy.	Burglary.	At. at burglary.	Burglar's tools.	Bawdy house.	Cruelty to child'n.	Conte'pt of court.	Carrying conc'led weapons.	Carrying slung shot.	Crime against nature.	Counterfeiting trade-mark.	Disposing mortgaged property.	Destruction of glass.	Disorderly house.	Extorti'g money.	Forgery.	At. at forgery.	False claim.	Gambling.
Number reported	1	9	221	7	1	1	10	294	48	4	5	4	1	7	1	2	2	1	1	1	1	40	5	1	1
Males	...	8	208	7	1	1	8	293	48	4	3	3	1	7	1	2	2	1	1	...	1	38	5	1	1
Females	1	1	13	....	...	...	2	1	....	....	2	1	....	......	......	.....	......	......	......	1	..	2	...	....	....
Under 15 years of age	....	....	2	....	....	...	...	8	1	...	...	...	....	......	......	.....	.....	.....	......	....	..	..	...	..	.
From 15 to 21 years of age	1	...	33	1	...	....	....	129	19	....	...	...	....	....	1	.....	.....	......	......	...	..	5	1	....	...
From 21 to 25 years of age	....	....	62	1	....	....	....	67	12	....	1	....	...	3	......	1	.....	1	......	...	...	6	.	...	....
From 25 to 30 years of age	...	2	38	1	...	...	2	36	8	3	1	1	...	2	.....	....	1	......	......	....	...	10	1	....	1
From 30 to 40 years of age	....	3	45	4	1	...	6	37	5	...	2	....	....	2	......	1	1	......	1	.	1	10	2	....	....
From 40 to 50 years of age	....	4	31	....	....	1	2	14	2	...	1	2	1	......	......	...	......	......	....	1	...	8	...	1	..
From 50 to 60 years of age	....	...	7	...	....	..	..	3	1	1	....	1	....	......	.....	..	......	......	......	...	..	...	1	...	...
Over 60 years of age	.	...	3	..	....	..	..	......	..	...	...	...	....	......	.....	...	......	......	......	...	..	1	...	...	...
Married	....	6	76	..	.	...	10	34	9	2	3	4	....	1	......	.....	.....	.....	.....	1	1	14	1	1	1
Single	1	3	145	7	1	1	...	260	39	2	2	...	1	6	1	2	2	1	1	...	...	26	4	....	..
Natives of United States	1	4	158	4	....	1	7	263	43	4	2	1	1	3	1	1	2	1	1	1	.	31	5	...	1
Natives of Ireland	....	...	29	....	..	....	1	16	4	....	1	...	...	......	......	...	......	......	.....	...	...	.	....	....	....
Natives of Germany	..	3	10	....	....	....	1	8	..	....	2	2	....	2	.....	1	......	......	...	....	..	4	....	1	....
Natives of England	...	...	1	....	..	....	....	1	....		....	1	....	......	......	.....	......	......	......	....	1	1	..	..	....
Natives of Scotland	.	1	1	....	....	....	....	..	....	..	....	...	...	......	......	......	......	......	......	..	....	...	....	....	....
Natives of France	...	....	5	....	....	...	..	2	...	...	....	....	....	......	.....	.....	.....	......	.....	....	..	1	...	...	....
Natives of Canada	...	.	1	..	....	....	....	......	...	....	....	....	...	......	.....	.....	.....	......	.....	..	....	...	...	....	...
Other foreign countries	..	1	16	3	1	....	1	4	1	....	....	....	...	2	.....	.....	.....	......	......	....	...	3	...	...	...
Can read and write	1	7	187	6	1	....	8	287	45	4	5	3	1	7	1	2	2	1	1	1	1	40	5	1	1
Can read only	..	....	1	....	....	....	....	1	...	....	....	...	....	......	......	......	......	......	......	....	...	...	...	....	...
Cannot read or write	....	2	33	1	....	1	2	6	3	...	....	1	....	......	.....	......	......	......	......	.	....	....	....	...	..
Unknown	1	9	221	7	1	1	10	294	48	4	5	4	1	7	1	2	2	1	1	1	1	40	5	1	1
Parents living	...	....	4	....	...	..	...	13	2	....	..	...	....	.....	......	......	...	......	.....	....	...	...	....	...	....
Father living	...	...	9	....	....	....	....	16	3	..	...	...	....	......	......	......	.....	1	......		...	1	....	....	....
Mother living	.	....	8	....	....	....	1	13	5	....	1	1	....	......	......	......	.....	......	......	....	...	1	....	....	....
Parents dead	1	9	200	7	1	1	9	252	38	4	4	3	1	7	1	2	2	. ..	1	1	1	38	5	1	1
Before convicted	..	...	17	....	.	..	....	24	4	...	....	...	..	......	......	......	......	......	......	.	..	2	1	...	....
Never before convicted	1	9	204	7	1	1	10	270	44	4	5	4	1	7	1	2	2	1	1	1	1	38	4	1	1
Temperate	1	8	179	6	1	1	9	289	47	4	5	4	1	7	1	2	2	1	1	1	1	40	5	1	1
Intemperate	....	1	42	1	....	..	1	5	1	..	..	...	.	......	.....	......	......	......	......	...	.	...	....	...	....

Table E. — County of New York — (Continued).

	Grand larceny	At. at gr'd larc'y.	Injury to property.	Libel.	Lotteries.	Misdemeanor.	Murder.	Manslaughter.	Opium.	Perjury.	Petit larceny.	Attempt at petit larceny.	Rape.	Robbery.	At. at robbery.	Receiving stolen goods.	Sabbath break'g.	Seduction.	At. at suicide.	Trespass.	Unlawf'l practice of medicine.	Violation excise laws.	Violation election laws.	Violation city ordinance.	Total.
Number reported	497	53	10	1	6	2	8	24	7	3	378	6	13	53	5	30	1	3	10	5	1	73	9	2	1,869
Males	461	50	8	1	6	2	8	23	7	3	329	5	13	52	5	30	...	3	9	5	1	69	9	2	1,746
Females	36	3	2	...	...	...	...	1	...	...	49	1	...	1	...	...	1	...	1	...	...	4	...	...	123
Under 15 years of age	20	...	...	...	...	...	...	...	...	...	14	...	...	...	...	...	...	...	...	...	...	...	...	...	45
From 15 to 21 years of age	188	22	4	...	...	...	2	3	...	1	153	2	3	10	2	12	...	...	...	1	...	1	1	...	595
From 21 to 25 years of age	118	16	1	...	...	...	1	7	1	...	69	4	2	24	3	7	...	3	2	1	...	5	...	...	418
From 25 to 30 years of age	73	7	2	...	...	...	3	6	3	...	52	...	2	11	...	4		...	3	...	...	11	4	...	288
From 30 to 40 years of age	67	6	3	1	3	...	1	4	3	...	57	...	4	7	...	6	1	...	...	2	...	22	2	2	312
From 40 to 50 years of age	26	2	...	...	3	2	...	4	...	2	27	...	2	...	...	...	...	...	5	...	...	32	2	...	175
From 50 to 60 years of age	3	...	...	...	...	...	1	...	...	...	5	...	...	...	...	...	...	...	...	1	...	2	...	...	26
Over 60 years of age	2	...	...	...	...	...	...	...	...	...	1	...	...	1	...	1	...	...	...	...	1	...	...	...	10
Married	83	11	5	1	4	1	1	9	...	1	69	1	5	7	5	5	1	...	4	...	...	55	2	...	434
Single	414	42	5	...	2	1	7	15	7	2	309	5	8	46	...	25	...	3	6	5	1	18	7	2	1,435
Natives of United States	425	44	4	1	4	...	6	17	...	3	318	6	10	51	5	27	1	2	3	4	1	28	7	2	1,505
Natives of Ireland	20	5	4	...	...	...	...	3	...	...	19	...	2	1	...	1		...	...		...	10	...	...	116
Natives of Germany	27	3	2	...	2	1	...	2	...	...	28	...	1	...	...	1	...	...	3	1	...	25	2	...	132
Natives of England	10	...	...	...	...	...	...	...	...	...	6	...	...	...	...	1	...	...	...	...	...	1	...	...	23
Natives of Scotland	4	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	1	...	...	...	...	...	10
Natives of France	3	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...	15
Natives of Canada	2	...	...	...	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...	...	...	...	4
Other foreign countries	6	1	...	...	...	...	2	2	7	...	3	...	...	...	...	...	...	1	1		...	9	...	...	64
Can read and write	485	53	9	1	6	1	7	21	7	3	361	6	12	50	5	30	1	2	9	5	1	66	9	2	1,770
Can read only	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Cannot read or write	12	...	1		...	1	1	3	...	...	16	...	1	3	...	...	...	1	1	...	...	7	...	...	96
Unknown	497	53	10	1	6	2	8	24	7	3	378	6	13	53	5	30	1	3	10	5	1	73	9	2	1,869
Parents living	32	4	1	...	...	...	1	1	...		19	...	1	...	...	...	...	1	...	...	...	...	...	...	79
Father living	33	4	2	...	...	...	...	1	...	...	25	...	...	2	...	2	...	...	...	...	...	1	1	...	101
Mother living	27	2	2	...	...	...	...	2	1	...	20	...	...	3	...	1	...	1	...	...	...	1	...	...	90
Parents dead	405	43	5	1	6	2	7	20	6	3	314	6	12	48	5	27	1	1	10	5	1	71	8	2	1,599
Before convicted	53	6	...	...	...	...	1		...	...	2	...	...	8	1	...	...	...		...	...	...	...	...	119
Never before convicted	444	47	10	1	6	2	7	24	7	3	376	6	13	45	4	30	1	3	10	5	1	73	9	2	1,750
Temperate	486	53	7	1	6	1	8	22	7	3	367	6	13	52	5	30	1	3	7	5	1	68	9	2	1,781
Intemperate	11	...	3	...	...	1	...	2		...	11	...	...	1	...	...	...	...	3	...	...	5	...	...	88

Table E. — (Continued).

COUNTY OF NIAGARA.

	Assault.	Burglary.	Felony.	Forgery.	Oppression.	Rape.	Grand larceny.	Petit larceny.	Total.
Number reported	1	7	1	2	1	1	1	1	15
Males	1	6	1	2	1	1	1	1	14
Females		1							1
From 15 to 21 years of age		2							2
From 25 to 30 years of age	1	4					1		6
From 30 to 40 years of age			1	1	1			1	4
From 40 to 50 years of age				1		1			2
Over 60 years of age		1							1
Married	1	4	1			1	1		8
Single		3		2	1			1	7
Natives of United States	1	7	1	1	1		1	1	13
Natives of Germany				1		1			2
Can read and write		6	1	1	1				9
Unknown	1	1		1		1	1	1	6
Had religious instruction		6	1	1	1	1			10
Never had religious instruction								1	1
Unknown	1	1		1			1		4
Parents living	1	4	1	1	1				8
Parents dead		3		1		1	1	1	7
Before convicted		1						1	2
Never before convicted	1	6	1	2	1	1	1		13
Temperate		3		1	1				5
Intemperate	1	4	1	1		1	1	1	10

COUNTY OF ONEIDA.

	Forgery.	Rape.	Burglary.	Aiding escape.	Manslaughter.	Total.
Number reported	1	1	3	1	1	7
Males	1	1	3	1	1	7
From 15 to 21 years of age				1		1
From 21 to 25 years of age			2			2
From 25 to 30 years of age		1				1
From 40 to 50 years of age			1		1	2
From 50 to 60 years of age	1					1
Married	1	1				2
Single			3	1	1	5
Natives of United States		1	2	1	1	5
Natives of Germany	1					1
Natives of Canada			1			1
Can read and write	1	1	3	1	1	7
Had religious instruction		1	3	1		5
Unknown	1				1	2
Parents living			1	1		2
Father living			1			1
Parents dead					1	1
Unknown	1	1	1			3
Before convicted				1	1	2
Never before convicted	1	1	3			5
Temperate	1	1	2			4
Intemperate			1	1	1	3

Table E.—(Continued).

COUNTY OF ONONDAGA.

	Arson.	Assault.	Abduction.	Burglary.	Grand larceny.	Petit larceny.	Forgery.	Murder, 2d degree	Disposing of mort'ged prop.	Violating excise laws.	Total.
Number reported	2	1	1	13	6	5	2	1	2	1	34
Males	2	1	1	13	6	5	2	1	2	1	34
From 15 to 21 years of age	....	....	....	2	1	....	1	....	....	....	4
From 21 to 25 years of age	....	....	....	6	3	2	....	....	1	....	12
From 25 to 30 years of age	....	....	....	3	....	2	1	....	1	....	7
From 30 to 40 years of age	1	....	....	2	1	1	....	1	....	....	6
From 40 to 50 years of age	....	....	1	....	....	....	....	....	....	....	1
From 50 to 60 years of age	....	....	....	....	1	....	....	....	....	1	2
Over 60 years of age	1	1	....	....	....	....	....	....	....	....	2
Married	1	1	1	2	....	2	1	....	1	1	10
Single	1	....	....	11	5	3	1	1	1	....	24
Natives of United States	2	....	1	10	6	5	2	....	1	....	27
Natives of Ireland	....	1	....	1	....	....	....	....	....	1	3
Natives of Germany	....	....	....	1	....	....	....	....	....	....	1
Natives of England	....	....	....	....	....	....	....	....	1	....	1
Other foreign countries	....	....	....	1	....	....	....	1	....	....	2
Can read and write	2	1	1	13	6	4	2	1	2	1	33
Cannot read or write	....	....	....	....	....	1	....	....	....	....	1
Unknown	2	1	1	13	6	5	2	1	2	1	34
Parents living	....	....	....	7	3	3	1	....	2	....	16
Father living	....	....	....	....	1	....	....	....	....	....	1
Mother living	....	....	....	2	1	1	1	1	....	....	6
Parents dead	2	1	1	4	1	1	....	....	....	1	11
Before convicted	1	1	1	6	3	3	1	....	....	1	17
Never before convicted	1	....	....	1	2	1	....	1	1	....	7
Unknown	....	....	....	6	1	1	1	....	1	....	10
Temperate	....	....	....	1	....	....	....	....	....	....	1
Intemperate	2	1	1	12	6	5	2	1	2	1	33

COUNTY OF ONTARIO.

	Grand larceny.	Forgery.	Arson.	Petit larceny.	Riot.	Burglary.	Total.
Number reported	7	2	1	1	4	2	17
Males	7	2	1	1	4	2	17
From 15 to 21 years of age	3	....	....	1	....	2	6
From 21 to 25 years of age	....	1	....	....	....	....	1
From 25 to 30 years of age	1	....	....	....	2	....	3
From 30 to 40 years of age	2	1	....	....	2	....	5
From 50 to 60 years of age	1	....	....	....	....	....	1
Over 60 years of age	....	....	1	....	....	....	1
Married	1	2	1	....	1	....	5
Single	6	....	....	1	3	2	12
Natives of United States	7	2	....	1	4	2	16
Natives of Ireland	....	....	1	....	....	....	1
Can read and write	7	2	1	1	4	2	17
Kad religious instruction	7	2	1	1	4	2	17
Parents living	5	1	....	1	2	2	11
Mother living	1	....	....	....	2	....	3
Parents dead	1	1	1	....	....	....	3
Before convicted	1	....	....	....	3	....	4
Never before convicted	6	2	1	1	1	2	13
Temperate	....	2	....	1	....	2	5
Intemperate	7	....	1	....	4	....	12

Table E.—(Continued).

COUNTY OF ORANGE.

	Burglary.	Forgery.	Murder, 2d degree.	Escape from custody.	Total.
Number reported	1	2	1	2	6
Males	1	2	1	2	6
From 15 to 21 years of age	1	1		1	3
From 21 to 25 years of age				1	1
From 25 to 30 years of age		1	1		2
Married		1			1
Single	1		1	2	4
Unknown		1			1
Natives of United States	1	1		2	4
Other foreign countries		1	1		2
Unknown	1	2	1	2	6
Unknown	1	2	1	2	6
Parents living		2	1		3
Mother living	1			2	3
Unknown	1	2	1	2	6
Unknown	1	2	1	2	6

COUNTY OF ORLEANS.

	Grand larceny.	Burglary.	Perjury.	Total.
Number reported	1	3	1	5
Males	1	3	1	5
From 15 to 21 years of age		1		1
From 25 to 30 years of age	1	1		2
From 30 to 40 years of age		1	1	2
Married	1		1	2
Unknown		3		3
Natives of United States		3		3
Natives of Ireland	1			1
Natives of Canada			1	1
Can read and write		1		1
Cannot read or write			1	1
Unknown	1	2		3
Had religious instruction		3	1	4
Never had religious instruction	1			1
Parents living		1		1
Mother living	1			1
Parents dead		1	1	2
Unknown		1		1
Before convicted	1	1		2
Unknown		2	1	3
Intemperate		2	1	3
Unknown	1	1		2

Table E. — (Continued).

COUNTY OF OSWEGO.

	Bigamy.	Assault.	Violation excise laws.	Burglary.	Petit larceny.	Rape.	Total.
Number reported	1	8	1	1	1	1	13
Males	1	8	1	1	1	1	13
From 15 to 21 years of age		2					2
From 21 to 25 years of age		1					1
From 25 to 30 years of age		2				1	3
From 30 to 40 years of age	1	1		1	1		4
From 40 to 50 years of age		1					1
From 50 to 60 years of age		1					1
Over 60 years of age			1				1
Married		1			1	1	3
Unknown	1	7	1	1			10
Natives of United States	1	6		1		1	9
Natives of Ireland		1					1
Natives of Germany		1			1		2
Natives of France			1				1
Can read and write		4			1	1	6
Cannot read or write	1	4	1	1			7
Had religious instruction	1	8	1		1	1	12
Never had religious instruction				1			1
Parents living		1			1	1	3
Parents dead		2		1			3
Unknown	1	5	1				7
Before convicted		1		1			2
Never before convicted		2			1	1	4
Unknown	1	5	1				7
Temperate		4	1		1		6
Intemperate	1	4		1		1	7

COUNTY OF OTSEGO.

	Burglary.	Grand larceny.	Murder, 2d degree.	Total.
Number reported	2	1	1	4
Males	2	1	1	4
From 15 to 21 years of age	1			1
From 21 to 25 years of age	1			1
From 30 to 40 years of age		1	1	2
Married			1	1
Single	2	1		3
Natives of United States	2	1	1	4
Can read and write			1	1
Unknown	2	1		3
Had religious instruction			1	1
Unknown	2	1		3
Parents living	2	1		3
Mother living			1	1
Before convicted	2	1		3
Unknown			1	1
Intemperate	2	1	1	4

Table E. — (Continued).

COUNTY OF QUEENS.

	Abduction.	Petit larceny.	Grand larceny.	Assault.	Burglary.	Arson.	Bigamy.	Rape.	Embezzlement.	Total.
Number reported	2	1	8	9	3	3	1	2	1	30
Males	2	....	8	9	3	3	1	2	1	29
Females	....	1	....	....	....	....	....	....	....	1
Under 15 years of age	....	1	....	....	....	....	....	....	....	1
From 15 to 21 years of age	1	....	1	....	2	2	....	....	1	7
From 21 to 25 years of age	....	....	2	3	....	....	1	1	....	7
From 25 to 30 years of age	....	....	3	2	....	....	....	....	....	5
Flom 30 to 40 years of age	1	....	1	1	1	....	....	....	....	4
From 40 to 50 years of age	....	....	....	....	....	1	....	....	....	1
From 50 to 60 years of age	....	....	....	2	....	....	....	1	....	3
Over 60 years of age	....	....	1	....	....	....	....	....	....	1
Unknown	....	....	....	1	....	....	....	....	....	1
Married	1	....	1	4	....	....	1	1	1	9
Single	1	1	7	4	3	3	....	1	....	20
Unknown	....	....	....	1	....	....	....	....	....	1
Natives of United States	1	1	4	3	2	....	1	....	1	13
Natives of Ireland	1	....	1	2	....	....	....	....	....	4
Natives of Germany	....	....	2	1	1	2	....	1	....	7
Natives of England	....	....	....	....	....	1	....	....	....	1
Natives of France	....	....	....	1	....	....	....	....	....	1
Other foreign countries	....	....	1	1	....	....	....	1	....	3
Unknown	....	....	....	1	....	....	....	....	....	1
Can read and write	1	1	8	8	3	3	1	2	1	28
Cannot read or write	1	....	....	....	....	....	....	....	....	1
Unknown	....	....	....	1	....	....	....	....	....	1
Had religious instruction	2	1	8	8	3	3	1	2	1	29
Unknown	....	....	....	1	....	....	....	....	....	1
Parents living	....	1	4	2	1	1	....	....	1	10
Father living	....	....	....	2	....	1	....	....	....	3
Mother living	2	....	1	1	1	....	....	1	....	6
Parents dead	....	....	3	3	1	1	1	1	....	10
Unknown	....	....	....	1	....	....	....	....	....	1
Before convicted	1	....	1	4	....	....	....	1	....	7
Never before convicted	1	1	7	4	3	3	1	1	1	22
Unknown	....	....	....	1	....	....	....	....	....	1
Temperate	1	1	5	3	1	2	....	....	1	14
Intemperate	1	....	3	5	2	1	1	2	....	15
Unknown	....	....	....	1	....	....	....	....	....	1

COUNTY OF RENSSELAER.

	Forgery.	Assault.	Petit larceny.	Grand larceny.	Seduction.	Burglary.	Robbery.	Disorderly house.	Misdemeanor.	Murder.	Total.
Number reported	1	5	3	9	1	7	2	1	1	1	31
Males	1	5	2	8	1	7	2	....	1	1	28
Females	....	....	1	1	....	....	....	1	....	....	3
Under 15 years of age	....	....	....	....	....	2	....	....	....	....	2
From 15 to 21 years of age	....	1	....	3	....	3	....	....	....	....	7
From 21 to 25 years of age	....	2	2	1	1	1	1	....	1	1	10
From 25 to 30 years of age	1	1	....	4	....	1	1	....	....	....	8
From 30 to 40 years of age	....	....	1	1	....	....	....	....	....	....	2
From 40 to 50 years of age	....	1	....	....	....	....	....	....	....	....	1
From 50 to 60 years of age	....	....	....	....	....	....	....	1	....	....	1
Married	....	....	1	3	....	....	1	1	....	1	7
Single	1	5	2	6	1	7	1	....	1	....	24
Natives of United States	1	4	2	7	....	6	2	....	....	....	22
Natives of Ireland	....	....	1	....	1	1	....	....	....	....	3

Table E. — County of Rensselaer — (Continued).

	Forgery.	Assault.	Petit larceny.	Grand larceny.	Seduction.	Burglary.	Robbery.	Disorderly house.	Misdemeanor.	Murder.	Total.
Natives of Germany	......	.....	......	.....	.....	......	......	......	1	......	1
Natives of England	.....	......	......	2	....	......	.. ..	......	......	......	2
Natives of Canada	... ..	.....	......	......	. .	.....	......	1	......	.....	1
Other foreign countries	......	1	......	......	......	......	......	.. ..	..	1	2
Can read and write	1	5	3	9	1	7	2	1	1	1	31
Had religious instruction	1	5	3	9	1	7	2	1	1	1	31
Parents living	1	1	1	......	1	5	.....	......	......	......	9
Father living	.. ...	2	.....	.....	.. ..	......	1	......	......	...	3
Mother living	......	......	2	3	... ..	1	.	...	....	1	7
Parents dead	......	2	.....	6	......	1	1	1	1	......	12
Before convicted	......	1	. ....	3	.....	1	.....	......	......	......	5
Never before convicted	1	4	3	6	1	6	2	1	1	1	26
Temperate	1	3	2	6	1	2	2	. ..	1	......	18
Intemperate	......	2	1	3	......	3	......	1	....	1	11
Unknown	.....	......	.. ..	......	.....	2	.. ...	......	......	......	2

COUNTY OF ST. LAWRENCE.

	Grand larceny.	Petit larceny.	Burglary.	Total.
Number reported	1	1	2	4
Males	1	1	2	4
From 25 to 30 years of age	.....	.....	1	1
From 30 to 40 years of age	1	.....	......	1
From 40 to 50 years of age	.....	1	1	2
Married	.....	... ..	2	2
Single	1	......	... ..	1
Unknown	......	1	......	1
Natives of United States	1	1	1	3
Natives of Canada	......	. ....	1	1
Can read and write	1	1	2	4
Had religious instruction	... ..	1	... .	1
Unknown	1	......	2	3
Parents living	.....	......	1	1
Mother living	1	......	1	2
Parents dead	......	1	......	1
Before convicted	1	1	1	3
Never before convicted	......	. ....	1	1
Intemperate	1	1	2	4

Table E. — (Continued).

COUNTY OF SARATOGA.

	Grand larceny.	Assault.	Petit larceny.	Disorderly house.	Burglary.	Malicious mischief.	Drunk and disorderly.	Total.
Number reported	2	3	4	2	2	1	1	15
Males	2	3	4	2	2	1	1	15
From 15 to 21 years of age	1		1		2	1		5
From 21 to 25 years of age		1						1
From 25 to 30 years of age	1		2					3
From 30 to 40 years of age		2						2
From 40 to 50 years of age				2				2
From 50 to 60 years of age			1				1	2
Married	1	1		2			1	5
Single	1	2	4		2	1		10
Natives of United States	2	2	3		2	1		10
Natives of Ireland				1			1	2
Natives of England			1					1
Other foreign countries		1		1				2
Can read and write	2	2	3	2	2	1	1	13
Cannot read or write		1	1					2
Had religious instruction	2	1	3	2	2	1	1	12
Never had religious instruction		2	1					3
Parents living	1		1	1	2	1		6
Father living		1						1
Mother living	1		1	1				3
Parents dead		2	2			1		5
Before convicted		2	2			1		5
Never before convicted	2	1	2	2	2		1	10
Temperate			1	1	2	1		5
Intemperate	2	3	3	1			1	10

COUNTY OF SCHENECTADY.

	Robbery.	Grand larceny.	Assault.	Attempt at rape.	Petit larceny.	Total.
Number reported	1	1	1	1	1	5
Males	1	1	1	1	1	5
From 15 to 21 years of age		1				1
From 21 to 25 years of age	1					1
From 25 to 30 years of age				1		1
From 40 to 50 years of age					1	1
From 50 to 60 years of age			1			1
Married			1			1
Single	1	1		1	1	4
Natives of United States	1	1	1	1	1	5
Can read and write	1	1	1	1	1	5
Had religious instruction	1	1	1	1	1	5
Father living	1					1
Mother living					1	1
Parents dead		1	1	1		3
Before convicted	1				1	2
Never before convicted		1	1	1		3
Temperate		1		1		2
Intemperate	1		1		1	3

Table E. —(Continued).

COUNTY OF SCHOHARIE.

	Burglary.	Total.		Burglary.	Total.
Number reported	4	4	Unknown	4	4
Males	4	4	Unknown	4	4
From 21 to 25 years of age	1	1	Parents living	2	2
From 25 to 30 years of age	2	2	Unknown	2	2
From 40 to 50 years of age	1	1	Before convicted	1	1
Unknown	4	4	Unknown	3	3
Natives of United States	2	2	Intemperate	1	1
Natives of Ireland	1	1	Unknown	3	3
Natives of Germany	1	1			

COUNTY OF STEUBEN.

	Burglary.	Assault.	Petit larceny.	Grand larceny.	Disorderly house.	Total.
Number reported	6	2	1	4	1	14
Males	6	2	1	4	1	14
From 15 to 21 years of age	1	......	1	......	.....	2
From 21 to 25 years of age	4	......	......	.....	.....	4
From 25 to 30 years of age	......	1	......	......	......	1
From 30 to 40 years of age	1	......	.....	2	1	4
From 40 to 50 years of age	......	......	.....	1	......	1
Over 60 years of age	......	1	......	......	.....	1
Unknown	......	......	......	1	......	1
Married	2	1	......	2	.....	5
Single	4	1	1	2	1	9
Natives of United States	6	2	1	4	1	14
Can read and write	1	2	1	1	.....	5
Unknown	5	......	......	3	1	9
Had religious instruction	2	2	1	2	......	7
Never had religious instruction	2	......	......	2	.....	4
Unknown	2	......	......	......	1	3
Parents living	2	.....	1	2	......	5
Father living	2	1	......	......	.....	3
Mother living	......	......	......	1	......	1
Parents dead	......	1	......	1	......	2
Unknown	2	......	......	......	1	3
Before convicted	2	......	.....	......	.....	2
Never before convicted	1	1	1	1	.....	4
Unknown	3	1	.....	3	1	8
Temperate	......	.....	1	......	.....	1
Unknown	6	2	.....	4	1	13

Table E. — (Continued).

COUNTY OF SUFFOLK.

	Assault.	Arson & larceny.	Burglary.	Grand larceny.	At. at gr'd larc'y.	Rape.	Riot.	Resisting officer.	Unlawful practice of medic'e.	Violation excise laws.	Total.
Number reported	3	1	3	6	1	1	1	2	1	1	20
Males	3	1	3	6	1	1	1	2	1	1	20
From 15 to 21 years of age			2	1		1					4
From 21 to 25 years of age	1	1	1	2							5
From 25 to 30 years of age	2						1				3
From 30 to 40 years of age				1	1						2
From 40 to 50 years of age				1							1
From 50 to 60 years of age									1		1
Unknown				1				2		1	4
Married	2			3	1			2	1	1	10
Single	1	1	3	3		1	1				10
Natives of United States	2	1	2	4	1	1	1		1	1	14
Natives of Ireland			1								1
Natives of Germany	1			1							2
Unknown				1				2			3
Can read and write	2	1	2	4	1		1	2	1	1	15
Can read only	1		1								2
Cannot read or write				2		1					3
Had religious instruction	2			5	1		1	2	1	1	13
Never had religious instruction	1	1	3	1		1					7
Parents living	2	1	1	2			1			1	8
Father living	1		2								3
Mother living				1	1						2
Parents dead				2		1					3
Unknown				1				2	1		4
Before convicted	1		1		1						3
Never before convicted	2	1	2	6		1	1	2	1	1	17
Temperate	3	1	3	6	1	1	1	2	1	1	20

COUNTY OF ULSTER.

	Assault.	Murder, 1st degree.	Burglary.	Total.
Number reported	1	1	1	3
Males	1	1	1	3
From 15 to 21 years of age		1	1	2
From 40 to 50 years of age	1			1
Unknown	1	1	1	3
Natives of United States	1	1	1	3
Cannot read or write	1			1
Unknown		1	1	2
Had religious instruction		1	1	2
Never had religious instruction	1			1
Unknown	1	1	1	3
Never before convicted	1	1		2
Unknown			1	1
Temperate			1	1
Intemperate	1			1
Unknown		1		1

Table E. — (Continued).

COUNTY OF WASHINGTON.

	Burglary.	Jail breaking.	Larceny.	Total.
Number reported	2	1	1	4
Males	2	1	1	4
From 25 to 30 years of age	1	1	....	2
From 30 to 40 years of age	....	....	1	1
From 50 to 60 years of age	1	....	....	1
Single	2	1	1	4
Natives of United States	2	1	....	3
Natives of Ireland	....	....	1	1
Can read and write	2	1	....	3
Unknown	....	....	1	1
Unknown	2	1	1	4
Parents living	....	1	....	1
Mother living	1	....	....	1
Parents' dead	1	....	1	2
Before convicted	1	....	1	2
Never before convicted	1	1	....	2
Intemperate	2	1	1	4

COUNTY OF WESTCHESTER.

	Burglary.	Attem'ed suicide.	Grand larceny.	Petit larceny.	Assault.	Total.
Number reported	2	1	2	3	1	9
Males	2	1	2	3	1	9
From 15 to 21 years of age	....	....	....	....	1	1
From 21 to 25 years of age	1	....	....	....	....	1
From 30 to 40 years of age	1	....	....	2	....	3
From 40 to 50 years of age	....	1	1	....	....	2
From 50 to 60 years of age	....	....	1	1	....	2
Married	....	1	....	....	....	1
Single	2	....	2	3	1	8
Natives of United States	....	....	....	3	1	4
Natives of Ireland	2	1	1	....	....	4
Natives of England	....	....	1	....	....	1
Can read and write	1	1	2	3	1	8
Cannot read or write	1	....	....	....	....	1
Unknown	2	1	2	3	1	9
Parents living	1	....	....	2	1	4
Parents dead	1	1	2	1	....	5
Never before convicted	2	1	2	3	1	9
Temperate	....	....	....	....	1	1
Intemperate	2	1	2	3	....	8

Table E.—(Continued).

COUNTY OF YATES.

	Assault.	Total.		Assault.	Total.
Number reported	2	2	Had religious instruction	2	2
Males	2	2	Parents living	1	1
From 25 to 30 years of age	2	2	Parents dead	1	1
Single	2	2	Never before convicted	2	2
Natives of Ireland	2	2	Temperate	1	1
Can read and write	2	2	Intemperate	1	1

TABLE F.

Condensation of Abstract E.

	Males.	Females.	Under 15 years of age.	From 15 to 21 years of age.	From 21 to 25 years of age.	From 25 to 30 years of age.	From 30 to 40 years of age.	From 40 to 50 years of age.	From 50 to 60 years of age.	Over 60 years of age.	Unknown.	Married.	Single.	Unknown.	Natives of United States.	Foreigners.
Grand larceny	636	37	32	225	153	99	106	38	13	5	2	136	539	....	552	114
Petit larceny	400	54	15	169	82	67	73	31	10	2	....	83	350	1	373	78
Assault	446	13	4	46	106	72	73	43	19	5	1	125	219	9	239	110
Burglary	510	2	14	202	128	69	64	25	4	4	....	74	430	9	238	65
Manslaughter	26	1	....	3	7	6	7	5	....	....	....	10	19	....	19	8
Forgery	11	....	....	8	10	20	14	12	3	1	....	35	36	....	53	15
Rape	22	....	....	6	3	5	5	3	1	....	....	9	121	....	15	6
Bigamy	16	2	....	1	2	3	8	2	1	....	....	16	1	1	12	6
Receiving stolen goods	41	1	....	15	10	7	9	....	....	1	....	9	33	....	33	8
Keeping gambling house	4	....	....	2	....	2	....	....	....	....	....	....	4	....	4	....
Murder	19	....	1	2	3	8	3	....	2	....	....	5	11	3	10	6
Robbery	63	1	1	14	27	12	9	....	....	1	....	10	54	....	61	2
Perjury	6	1	....	1	1	....	1	2	....	....	2	2	5	....	4	2
Abortion	1	....	....	....	....	1	....	....	....	....	....	....	1	....	1	....
Escape	4	....	....	2	2	....	....	....	....	....	....	....	4	....	4	....
Violating excise law	76	4	....	1	5	11	23	32	5	1	2	58	19	3	30	49
Extortion	2	....	....	....	....	....	1	1	....	....	....	2	....	....	1	1
Keeping disorderly house	7	4	....	....	....	....	5	3	1	1	1	6	5	....	8	3
Selling obscene pictures	1	....	....	....	....	....	1	....	....	....	....	....	1	....	1	....
Crime against nature	3	....	1	....	1	....	1	....	....	....	....	....	3	....	2	1
Incest	1	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....
False pretense	1	....	....	....	....	....	1	....	....	....	....	....	1	....	1	....
Carrying concealed weapons	10	....	....	1	5	2	2	....	....	....	....	2	8	....	4	5
Abandonment	....	2	....	1	....	....	....	....	....	....	1	....	1	....	2	....
Arson	9	....	....	2	....	1	3	1	....	2	....	2	5	2	3	6
Seduction	4	....	....	....	4	....	....	....	....	....	....	....	4	....	2	2
Misdemeanor	4	....	....	....	1	....	3	....	....	....	2	2	....	....	4	....
Abduction	11	1	....	1	....	2	4	5	....	....	....	8	4	....	6	6
Embezzlement	1	....	....	1	....	....	....	....	....	....	....	1	....	....	1	....
Attempt assault	7	....	....	1	1	1	4	....	....	....	....	....	7	....	4	3
Adulterating milk	1	....	....	....	....	....	....	1	....	....	....	....	1	....	1	....
Attempt burglary	85	....	3	31	19	12	13	5	2	....	....	15	69	1	77	8
Carrying burglar's tools	4	....	....	....	....	3	....	....	1	....	....	2	2	....	4	....
Bawdy house	3	2	....	....	1	1	2	1	....	....	....	3	2	....	2	3
Cruelty to children	3	1	....	....	....	1	....	2	1	....	....	4	....	....	1	3
Carrying slung shot	1	....	....	1	....	....	....	....	....	....	....	....	1	....	1	....

Table F. — (Continued).

	Males.	Females.	Under 15 years of age.	From 15 to 21 years of age.	From 21 to 25 years of age.	From 25 to 30 years of age.	From 30 to 40 years of age.	From 40 to 50 years of age.	From 50 to 60 years of age.	Over 60 years of age.	Unknown.	Married.	Single.	Unknown.	Natives of United States.	Foreigners.
Contempt court	1							1					1		1	
Counterfeiting trade-mark	2					1	1						2		2	
Disposing mortgaged property	3				2	1						1	2		2	1
Destruction of glass	1						1						1		1	
Attempt at forgery	6			1	1		3		1			1	4	1	5	1
False claim	1							1				1				1
Gambling	2				1	1						1	1		2	
Attempt grand larceny	78	4	2	28	26	11	11	4				22	60		68	14
Injury to property	9	2		4	1	3	3					5	6		4	7
Libel	2						1				1	1		1	1	
Lotteries	6						3	3				4	2		4	2
Opium	7				1	3	3						7			7
Attempt petit larceny	5	1		2	4							1	5		6	
Attempt robbery	5			2	3							5			5	
Sabbath breaking		1					1					1			1	
Attempt suicide	10	1			2	3		6				5	6		3	8
Trespass	5			1	1		2		1				5		4	1
Unlawful practice of medicine	2								1	1		1	1		2	
Violating election law	9			1		4	2	2				2	7		7	2
Violating city ordinance	2						2						2			
Indecent exposure	3			1		1	1					1	2		2	1
Murder in 2d degree	2						1		1			1	1			1
Attempt kidnap		1						1				1				1
Attempt rape	2						1			1		2			1	1
Malicious mischief	4			1	2	1							4		4	
Pool selling	2					1	1					2			1	1
Possessing indecent articles	1					1						1				1
Bribery	2					1					1		1	1	1	
Arson and larceny	1				1								1		1	
Riot	5					3	2					1	4		5	
Resisting officer	2										2	2				
Burglary and larceny	2				2		1					2	1		3	
Felony	1						1					1			1	
Oppression	1						1						1		1	
Drunk and disorderly	1								1			1				1
Total	2,625	136	73	777	618	440	478	230	68	25	15	685	2,087	32	1,912	561

Table F. — (Continued).

	Unknown.	Can read and write.	Can read only.	Cannot read or write.	Unknown.	Parents living.	Father living.	Mother living.	Parents dead.	Unknown.	Temperate.	Intemperate.	Unknown.	Before convicted.	Never before convicted.	Unknown.
Grand larceny	1	623	...	23	14	122	39	49	436	17	524	121	11	76	506	64
Petit larceny	...	420	1	20	5	49	27	33	328	13	390	45	13	16	423	11
Assault	1	288	1	49	11	58	27	25	230	21	209	117	23	44	279	98
Burglary	...	455	2	15	27	132	33	33	284	21	338	130	34	14	359	30
Manslaughter	...	23	...	4	...	2	1	2	24	...	22	5	...	1	26	...
Forgery	...	60	...	1	7	10	3	3	40	9	46	10	8	5	50	10
Rape	...	16	...	5	1	3	...	1	16	1	16	4	...	1	20	...
Bigamy	...	11	...	3	1	2	1	1	13	1	10	5	...	1	16	1
Receiving stolen goods	1	41	...	1	...	10	2	1	27	2	30	9	2	...	40	2
Keeping gambling house	...	2	...	2	...	2	...	1	...	1	1	...	3	...	3	1
Murder	3	14	1	1	3	6	...	2	9	2	10	7	2	3	9	7
Robbery	1	57	...	5	2	4	5	3	51	1	54	9	1	13	12	19
Perjury	1	5	...	1	1	2	...	...	4	1	3	2	2	...	4	3
Abortion	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Escape	...	4	...	...	...	1	...	1	...	2	...	2	2	1	...	3
Violating excise law	1	71	...	8	1	1	1	2	72	4	70	7	3	1	75	4
Extortion	...	1	...	...	1	1	...	...	1	...	1	...	1	1	1	...
Keeping disorderly house	...	5	...	...	6	7	...	1	2	1	6	5	...	2	7	2
Selling obscene pictures	...	...	...	...	1	...	...	1	...	...	...	1	...	...	...	...
Crime against nature	...	2	...	1	...	1	...	...	2	...	2	1	...	...	2	1
Incest	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	1
False pretense	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1
Carrying concealed weapons	1	9	...	...	1	2	...	...	7	1	8	...	2	...	8	2
Abandonment	...	2	...	...	...	1	...	...	1	...	1	...	1	...	2	...
Arson	...	8	...	1	1	2	1	...	5	1	3	4	2	2	7	...
Seduction	...	3	...	1	...	2	...	1	1	...	4	...	...	...	4	...
Misdemeanor	3	...	1	...	...	...	...	4	...	2	2	...	...	4	...	...
Abduction	...	9	...	3	...	...	...	2	10	...	9	3	...	2	10	...
Embezzlement	...	1	...	...	...	1	...	...	...	...	1	...	...	...	1	...
Attempt assault	...	6	...	1	...	...	...	...	7	...	6	1	...	...	7	...
Adulterating milk	...	...	...	1	...	...	...	...	1	...	1	...	...	...	1	...
Attempt burglary	...	82	...	3	...	24	6	9	44	2	49	34	2	6	79	...
Carrying burglar's tools	...	4	...	...	...	...	...	...	4	...	4	...	...	...	3	1
Bawdy house	...	5	...	...	...	...	...	1	4	...	5	...	...	...	5	...
Cruelty to children	...	3	...	1	...	...	...	1	3	...	4	...	...	...	4	...
Carrying slung shot	...	1	...	...	...	...	...	...	1	...	1	...	...	...	1	...
Contempt court	...	1	...	...	...	...	...	...	1	...	1	...	...	...	1	...
Counterfeiting trade-mark	...	2	...	...	...	...	...	...	2	...	2	...	...	...	2	...

Table F. — (Continued).

	Unknown.	Can read and write.	Can read only.	Cannot read or write.	Unknown.	Parents living.	Father living.	Mother living.	Parents dead.	Unknown.	Temperate.	Intemperate.	Unknown.	Before convicted.	Never before convicted.	Unknown.
Disposing mortgaged property		3				2	1				1	2			2	1
Destruction of glass		1							1		1				1	
Attempt at forgery		6						1	5		6			1	5	
False claim		1							1		1				1	
Gambling		2				1			1		2				2	
Attempt grand larceny		82				22	7	9	44		62	20		7	75	
Injury to property		10		1		1	2	2	5	1	7	3	1		11	
Libel	1	1			1				1	1	1		1		1	1
Lotteries		6							6		6				6	
Opium		7						1	6		7				7	
Attempt petit larceny		6							6		6				6	
Attempt robbery		5							5		5			1	4	
Sabbath breaking		1							1		1				1	
Attempt suicide		10		1					11		7	4			11	
Trespass		5							5		5				5	
Unlawful practice of medicine		2							1	1	2				2	
Violating election law		9					1		8		9				9	
Violating city ordinance		2							2		2				2	
Indecent exposure		3				2		1				3			3	
Murder in 2d degree		2				1		1				2			2	
Attempt kidnap		1					1					1			1	
Attempt rape		2							2			2			2	
Malicious mischief		4				4					1	3		1	3	
Pool selling		2					1	1			2				2	
Possessing indecent articles		1				1					1				1	
Bribery	1	1			1					2			2		1	1
Arson and larceny		1				1					1				1	
Riot		5				3		2			1	4		3	2	
Resisting officer	2	2								2	2				2	
Burglary and larceny		2		1		3						3		1	2	
Felony		1				1						1			1	
Oppression		1				1					1				1	
Drunk and disorderly		1							1			1			1	
Total	17	2,423	6	154	85	491	159	195	1,732	110	1,973	573	116	307	2,143	265

TABLE G.

Occupation of persons convicted in courts of record during the year ending October 31, 1885, as reported by the sheriffs.

Occupation.	No. of persons.
Artists	3
Awningmaker	1
Architect	1
Agents	8
Bootblack	1
Bankers	2
Brushmakers	2
Billposter	1
Builder	1
Bagsewers	3
Bridgetender	1
Bottlers	6
Boilermakers	6
Butchers	38
Boatmen	14
Baker	13
Brassmoulders	13
Blacksmiths	24
Barbers	17
Brokers	9
Bookkeepers	17
Bookbinders	6
Bottlewasher	1
Bartenders	16
Baggagemaster	1
Brakemen	2
Boxfactory	3
Clockmakers	2
Clerks	217
Cooks	33
Cagemakers	2
Carpenters	48
Colormixer	1
Coopers	20
Chairmakers	3
Cattle yard	1
Chandelier	1
Coachmen	3
Carriagemaker	1
Cabinetmakers	3
Copyist	1
Carman	1
Cheesemaker	1
Carpetweaver	1
Carvers	3
Carriagetrimmer	1
Clothcutter	1
Comedian	1
Clergyman	1
Cardmakers	2
Contractor	1
Crockery	1
Collector	1
Druggists	5
Drivers	162
Dishwasher	1
Drygoods	1
Drayman	1
Doctor	1
Express	4
Engineers	9
Errandboys	14
Engraver	1
Evangelist	1
Electricians	2
Envelopemakers	1
Factoryhands	2
Fishdealers	2
Foremen	28
Furrier	1
Farmers	48
Framemakers	2
Firemen	5
Florists	3
Furniture	1
Fruitdealers	2
Fresco painter	1
Gasfitters	4
Gasblowers	2
Goldbeaters	1
Glasscutter	1
Grainer	1
Grocers	2
Gardeners	2
Glovecutter	1
Glazier	1
Hackmen	2
Hatters	30
Hostlers	10
Hotelkeepers	9
Hat cutters	2
Housekeepers	28
Helpers	2
Harnessmakers	4
Hardware	1
Hammerman	1
Icemen	3
Iron moulders	2
Insurance agent	1
Jeweller	6
Jockies	2
Journalist	1
Junk dealer	1
Japaner	1
Lawyers	2
Laborers	632

Table G. — (Continued).

Occupation.	No. of persons.	Occupation.	No. of persons.
Lumbermen	4	Salesmen	12
Laundrymen	11	Sailors	46
Longshoremen	12	Servants	25
Lacedyer	1	Steamboat hands	4
Lodging-house	1	Surgeons	2
Laundress	1	Stone cutters	8
Lecturer	1	Skindresser	1
Lithographer	1	Stovemounters	2
Machinists	30	Segarmakers	26
Masons	65	Shoemakers	39
Moulders	45	Saloon keepers	65
Manager	1	Seamstresses	8
Missionary	1	Speculator	1
Mechanic	1	Signmaker	1
Merchant	1	Steam fitters	5
Marble dealer	1	Students	3
Mattressmaker	1	Stablemen	1
Matmaker	1	Silversmiths	5
Miner	1	School	5
Musician	1	Silkweaver	1
News dealer	1	Sailmaker	1
Newsboy	1	Sexton	1
None	106	Steward	1
Organbuilder	1	Switchman	1
Oystermen	10	Stenographer	1
Paper factory	2	Soldier	1
Painters	59	Sawmaker	1
Peddlers	46	Spinners	2
Printers	56	Telegraphers	2
Postal service	1	Tobacconist	1
Plasterers	6	Tanners	3
Plumbers	47	Telephone	1
Porters	34	Tailors	29
Prostitutes	71	Tinsmiths	30
Polishers	3	Teamsters	6
Picturemaker	1	Varnishers	5
Police sergeant	1	Watchmen	3
Packer	1	Waiters	71
Pressmen	2	Wood carvers	2
Policeman	1	Wireworker	1
Patternmaker	1	Weaver	1
Papercarrier	1	Umbrellas	2
Runners	2	Upholsterers	2
Rolling mill	1	Undertaker	1
Ragpickers	2		
Roofer	1	Total	2689
Railroading	7		

TABLE H.

ABSTRACT of the returns of the clerks of criminal courts, giving the number of indictments tried in each county at the several terms of criminal courts, the number of convictions, the number acquitted, the number of cases in which juries did not agree, the number convicted on the plea of guilty, and the number of persons indicted and discharged without trial.

COURTS.	Whole number of indictments tried.	Number on which convictions were had.	Number on which defendants were acquitted.	Number on which jury did not agree.	Number of persons convicted on confession.	Number of indictments on which persons were discharged without trial.
COUNTY OF ALBANY.						
Sessions, November, 1884	4	4	....	....	15	....
Oyer and Terminer, December, 1884	....	....	....	....	3	....
Sessions, February, 1885	1	1	....	....	7	....
	5	5	....	....	25	....
COUNTY OF BROOME.						
Sessions, November, 1884	6	5	1	....	....	....
Sessions, September, 1885	8	6	2	....	....	1
	14	11	3	....	....	1
COUNTY OF CATTARAUGUS.						
Oyer and Terminer, February, 1885	....	....	....	....	2	1
Sessions, March, 1885	2	1	1	....	4	....
Oyer and Terminer, May, 1885	1	1	....	....	1	....
Sessions, October, 1885	3	3	....	....	8	3
	6	5	1	....	15	4
COUNTY OF CAYUGA.						
Sessions, December, 1884	....	....	....	....	9	1
Oyer and Terminer, May, 1885	....	....	....	....	3	....
	....	....	....	....	12	1
COUNTY OF CHAUTAUQUA.						
Oyer and Terminer, September, 1885	....	....	....	....	7	....
	....	....	....	....	7	....
COUNTY OF CHEMUNG.						
Oyer and Terminer, January, 1885	....	....	....	....	1	....
	....	....	....	....	1	....
COUNTY OF CHENANGO.						
Sessions, February, 1885	3	2	1	....	....	....
Oyer and Terminer, May, 1885	....	....	....	....	1	....
Sessions, October, 1885	5	5	....	....	....	1
	8	7	1	....	1	1
COUNTY OF COLUMBIA.						
Sessions, November, 1884	1	1	....	....	....	....
Sessions, June, 1885	1	1	....	....	1	....
Oyer and Terminer, October, 1885	1	1	....	....	4	....
	3	3	....	....	5	....
COUNTY OF CORTLAND.						
Sessions, March, 1885	2	....	1	1	4	1
Oyer and Terminer, June, 1885	....	....	....	....	1	2
	2	....	1	1	5	3

Table H.—(Continued).

COURTS.	Whole number of indictments tried.	Number on which convictions were had	Number on which defendants were acquitted.	Number on which jury did not agree.	Number of persons convicted on confession.	Number of indictments on which persons were discharged without trial.
COUNTY OF DELAWARE.						
Sessions, December, 1884	....	....	....	....	3	....
Oyer and Terminer, February, 1885	....	....	....	....	1	1
Sessions, March, 1885	1	1	....	....	....	2
Sessions, August, 1885	1	1	....	....	1	....
Oyer and Terminer, October, 1885	....	....	....		3	....
	2	2	....	....	8	3
COUNTY OF DUTCHESS.						
Oyer and Terminer, December, 1884	....	....	....	....	1	....
Sessions, January, 1885	2	2	....	....	1	....
Oyer and Terminer, June, 1885	1	1	....	....	4	....
Sessions, August, 1885	4	4	....	....	4	....
	7	7	....	....	10	....
COUNTY OF ERIE						
Oyer and Terminer, September, 1884	2	1	1	....	....	....
Oyer and Terminer, November, 1884	3	2	....	1	....	....
Oyer and Terminer, February, 1885	1	1	....	....	....	....
	6	4	1	1	....	....
COUNTY OF ESSEX.						
Oyer and Terminer, December, 1884	....	....	....	....	2	....
Sessions, January, 1885	....	....	....	....	17	3
	....	....	....	....	19	3
COUNTY OF FRANKLIN.						
Sessions December, 1884	1	....	1	....	2	....
Sessions, June, 1885	3	3	....	....	1	
Oyer and Terminer, September, 1885	1	1	....	....	6	
	5	4	1	....	9	....
COUNTY OF GENESEE.						
Oyer and Terminer, November, 1884	....	....	....	1	3	....
Sessions, December, 1884	2	....	2	....	....	....
Oyer and Terminer, March, 1885	....	....	....	1	....	....
Sessions, April, 1885	1	1	....	....	1	....
Oyer and Terminer, June, 1885	6	6	....	....	1	....
	9	7	2	....	3	4
COUNTY OF HAMILTON						
Sessions, June, 1885	....	....	....	....	1	....
	....	....	....	....	1	....
COUNTY OF HERKIMER.						
Sessions, December, 1884	7	7	....	....	....	1
Sessions, June, 1885	15	14	1	....	....	3
	22	21	1	....	....	4
COUNTY OF JEFFERSON.						
Oyer and Terminer, December, 1884	1	1	....	....	2	....
Sessions, February, 1885	3	1	2	....	2	2
Oyer and Terminer, April, 1885	....	....	....	....	1	....
Sessions, May, 1885	2	1	1	....	2	....
Oyer and Terminer, September, 1885	....	....	....	....	3	....
Sessions, October, 1885	1	1	....	....	3	....
	7	4	3	....	13	2

Table H. — (Continued).

COURTS.	Whole number of indictments tried.	Number on which convictions were had.	Number on which defendants were acquitted.	Number on which jury did not agree.	Number of persons convicted on confession.	Number of indictments on which persons were discharged without trial.
COUNTY OF KINGS.						
Sessions, November, 1884	8	3	5	......	6	4
Sessions, December, 1884	14	11	3	......	37	35
Sessions, January, 1885	10	3	7	......	24	16
Sessions, February, 1885	6	2	4	......	14	7
Sessions, March, 1885	12	7	5	......	15	5
Sessions, April, 1885	1	......	1	......	5	1
Sessions, May, 1885	8	5	3	......	20	2
Sessions, June, 1885	5	1	4	......	13	11
Sessions, July, 1885	4	3	1	......	26	.
Sessions, September, 1885	4	1	3	......	12	2
Sessions, October, 1885	6	3	3	......	31	5
	78	39	39	......	203	88
COUNTY OF MADISON.						
Sessions, May, 1885	1	1	......	......	......	..
Sessions, September, 1885	1	1	......	......	......	1
Sessions, December, 1885	3	2	1	......	......	......
	5	4	1	......	......	1
COUNTY OF MONROE.						
Sessions, November, 1884	8	4	3	1	18	3
Sessions, March, 1885	5	2	3	......	5	3
Sessions, May, 1885	5	4	......	1	10	1
Sessions, July, 1885	......	......	......	......	1	......
Oyer and Terminer, December, 1884	......	......	......	......	1	......
Oyer and Terminer, January, 1885	......	......	......	......	2	......
Oyer and Terminer, March, 1885	1	1	......	......	1	..
Oyer and Terminer October, 1885	......	......	......	......	3	1
	19	11	6	2	41	8
COUNTY OF MONTGOMERY.						
Sessions, December, 1884	1	1	......	......	3	......
Sessions, March, 1885	3	2	1	......	5	1
Oyer and Terminer, May, 1885	......	......	......	......	2	......
	4	3	1	......	10	1
COUNTY OF NEW YORK.						
Sessions, November, 1884	66	23	43	......	112	21
Oyer and Terminer, November, 1884	7	3	4	......	3	...
Sessions, December, 1884	75	36	39	......	178	33
Sessions, January, 1885	59	26	33	......	102	15
Sessions, February, 1885	94	39	55	......	130	13
Oyer and Terminer, February, 1885	35	22	13	......	22	5
Sessions, March, 1885	73	27	46	......	134	17
Sessions, June, 1885	83	30	53	......	102	30
Sessions, July, 1885	59	19	40	......	92	12
Sessions, August, 1885	47	23	24	......	129	16
Sessions, September, 1885	85	34	51	......	119	20
Sessions, April, 1885	88	36	52	......	124	28
Sessions, May, 1885	88	39	49	......	106	18
Sessions, October, 1885	64	32	32	......	131	25
	923	389	534	.	1,484	253

Table H.—(Continued).

COURTS.	Whole number of indictments tried.	Number on which convictions were had.	Number on which defendants were acquitted.	Number on which jury did not agree.	Number of persons convicted on confession.	Number of indictments on which persons were discharged without trial.
COUNTY OF NIAGARA.						
Sessions, December, 1884	3	3	....	....	10	....
Sessions, March, 1885	....	....	....	....	3	....
Oyer and Terminer, April, 1885	....	....	....	....	1	....
Sessions, May, 1885	1	1	....	....	1	....
Oyer and Terminer, September, 1885	....	....	....	....	2	....
Sessions, October, 1885	1	1	....	....	....	....
	5	5	....	....	17	.
COUNTY OF ONEIDA.						
Oyer and Terminer, November, 1884	1	....	1	....	5	....
Sessions, December, 1884	4	3	1	....	8	3
Oyer and Terminer, January, 1885	1	1	....	....	....	....
Sessions, April, 1885	....	....	....	....	1	....
Oyer and Terminer, May, 1885	....	....	....	....	2	....
	6	4	2	....	16	3
COUNTY OF ONONDAGA.						
Sessions, December, 1884	1	....	1	....	4	2
Sessions, February, 1885	....	....	....	....	9	3
Oyer and Terminer, March, 1885	....	....	....	....	3	....
Oyer and Terminer, April, 1885	1	1	....	....	6	....
Sessions, April, 1885	4	2	1	1	6	5
Sessions, June, 1885	....	....	....	....	9	1
Oyer and Terminer, June, 1885	1	1	....	....	4	....
	7	4	2	1	41	11
COUNTY OF ONTARIO.						
Oyer and Terminer, November, 1884	6	6	....	....	....	....
Sessions, January, 1885	5	3	2	....	....	....
Oyer and Terminer, February, 1885	2	1	1	....	....	1
Oyer and Terminer, May, 1885	6	5	1	....	....	3
Sessions, June, 1885	3	3	....	....	1	....
	22	18	4	....	1	4
COUNTY OF ORLEANS.						
Sessions, November, 1884	3	3	....	....	....	1
Oyer and Terminer, June, 1885	1	1	....	....	....	....
	4	4	....	....	....	1
COUNTY OF ORANGE.						
Oyer and Terminer, January, 1885	....	....	....	....	2	....
Sessions, February, 1885	2	....	2	....	2	....
Oyer and Terminer, April, 1885	....	....	....	....	3	....
Sessions, May, 1885	3	2	1	....	1	....
Sessions, September, 1885	1	1	....	....	....	....
	6	3	3	....	8	....
COUNTY OF OTSEGO.						
Oyer and Terminer, January, 1885	1	1	....	....	1	1
Oyer and Terminer, June, 1885	1	....	1	....	....	....
Sessions, October, 1885	5	4	1	....	....	....
	7	5	2	....	1	1
COUNTY OF PUTNAM.						
Sessions, February, 1885	1	1	....	....	3	....
Oyer and Terminer, June, 1885	1	1	....	....	....	....
	2	2	....	....	3	....

Table H. — (Continued).

COURTS.	Whole number of indictments tried.	Number on which convictions were had.	Number on which defendants were acquitted.	Number on which jury did not agree.	Number of persons convicted on confession.	Number of indictments on which persons were discharged without trial.
COUNTY OF QUEENS.						
Sessions, November, 1884	3	3	.....	.....	4	.....
Oyer and Terminer, January, 1885	2	2	.....	.....	2	.....
Sessions, March, 1885	7	4	3	.....	4	.....
Oyer and Terminer, April, 1885	1	.....	1	.....	1	.....
Oyer and Terminer, June, 1885	2	2	.....	.....	2	.....
Sessions, July, 1885	5	2	3	.....	3	.....
Sessions, September, 1885	5	3	2	.....	5	.....
Oyer and Terminer, October, 1885	.....	.....	.....	.....	1	.....
	25	16	9	.....	22	.....
COUNTY OF RENSSELAER.						
Oyer and Terminer, November, 1884	1	1	.....	.....	1	.....
Sessions, December, 1884	8	3	5	.....	4	.....
Oyer and Terminer, February, 1885	.....	.....	.....	.....	2	.....
Sessions, March, 1885	10	5	5	.....	1	.....
Oyer and Terminer, May, 1885	1	.....	1	.....	.....	.....
Sessions, June, 1885	7	3	4	.....	7	.....
Oyer and Terminer, September, 1885	.....	.....	.....	.....	1	.....
Sessions, October, 1885	10	8	2	.....	7	.....
	37	20	17	.....	23	.....
COUNTY OF SARATOGA.						
Sessions, December, 1884	5	5	.....	.....	2	.....
Oyer and Terminer, January, 1885	5	5	.....	.....	3	1
Sessions, February, 1885	1	1	.....	.....	.....	.....
Oyer and Terminer, June, 1885	.....	.....	.....	.....	2	.....
Sessions, July, 1885	1	1	.....	.....	4	.....
	12	12	.....	.....	11	1
COUNTY OF SCHENECTADY.						
Oyer and Terminer, November, 1884	.....	.....	.....	.....	1	.....
Sessions, January, 1885	2	1	1	.....	.....	.....
Sessions, May, 1885	2	2	.....	.....	.....	.....
Sessions, September, 1885	.....	.....	.....	.....	4	.....
	4	3	1	.....	5	.....
COUNTY OF SCHOHARIE.						
Sessions, February, 1885	.....	.....	.....	.....	1	.....
Sessions, June, 1885	.....	.....	.....	.....	4	.....
	.....	.....	.....	.....	5	.....
COUNTY OF SCHUYLER.						
Oyer and Terminer, December, 1884	.....	.....	.....	.....	1	.....
Sessions, February, 1885	1	.....	1	.....	3	1
Sessions, October, 1885	1	.....	.....	1	5	.....
	2	.....	1	1	9	1
COUNTY OF SUFFOLK.						
Sessions, March, 1885	4	3	.....	1	6	1
Oyer and Terminer, April, 1885	1	.....	1	.....	1	.....
Sessions, September, 1885	2	2	.....	.....	11	.....
Sessions, October, 1885	.....	.....	.....	.....	3	.....
	7	5	1	1	21	1

Table H. — (Continued).

COURTS.	Whole number of indictments tried.	Number on which convictions were had.	Number on which defendants were acquitted.	Number on which jury did not agree.	Number of persons convicted on confession.	Number of indictments on which persons were discharged without trial.
COUNTY OF STEUBEN.						
Sessions, December, 1884	3	....	3	....	1	6
Oyer and Terminer, January, 1885	....	....	....	....	1	....
Sessions, February, 1885	....	....	....	....	3	2
Sessions, June, 1885	....	....	....	....	1	3
Oyer and Terminer, September, 1885	....	....	....	....	1	....
Sessions, October, 1885	5	4	1	....	2	4
	8	4	4	....	9	15
COUNTY OF SULLIVAN.						
Sessions, February, 1885	1	1	....	....	....	....
	1	1	....	....	....	....
COUNTY OF TIOGA.						
Oyer and Terminer, December, 1884	1	1	....	....	1	1
Sessions, February, 1885	5	1	4	....	3	1
Sessions, September, 1885	2	1	1	....	1	....
	8	3	5	....	5	2
COUNTY OF ULSTER.						
Oyer and Terminer, November, 1884	1	1	....	....	1	....
Sessions, March, 1885	1	1	....	....	....	....
Sessions, June, 1885	1	1	....	....	....	....
Sessions, September, 1885	2	2	....	....	2	....
	5	5	....	....	3	....
COUNTY OF WARREN.						
Oyer and Terminer, March, 1885	2	2	....	....	....	....
Sessions, May, 1885	12	12	....	....	1	....
	14	14	....	....	1	....
COUNTY OF WESTCHESTER.						
Sessions, November, 1884	11	8	3	..	....	1
	11	8	3	....	....	1
COUNTY OF WYOMING.						
Sessions, January, 1885	5	4	....	1	3	....
Sessions, June, 1885	2	2	....	....	3	1
Oyer and Terminer, September, 1885	....	....	....	....	1	....
Sessions, October, 1885	3	2	1	....	4	....
	10	8	1	1	11	1
COUNTY OF YATES.						
Sessions, September, 1885	....	....	....	....	1	....
	....	....	....	....	1	....

TABLE I.

Summary of table H, exhibiting the results of the returns from each county.

	Whole number of indictments tried.	Number on which convictions were had.	Number on which defendants were acquitted.	Number on which jury did not agree.	Number of persons convicted on confession.	Number of indictments on which defendants were discharged without trial.
Albany	5	5	......	......	25	......
Broome	14	11	3	......	......	1
Cattaraugus	6	5	1	......	15	4
Cayuga	......	......	......	......	12	1
Chautauqua	......	......	......	......	7	......
Chemung	......	......	......	......	1	......
Chenango	8	7	1	......	1	1
Columbia	3	3	......	......	5	......
Cortland	2	......	1	1	5	3
Delaware	2	2	......	......	8	3
Dutchess	7	7	......	......	10	......
Erie	6	4	1	1	......	......
Essex	......	......	......	......	19	3
Franklin	5	4	1	......	9	......
Genesee	9	7	2	......	3	4
Hamilton	......	......	......	......	1	......
Herkimer	22	21	1	......	......	4
Jefferson	7	4	3	......	13	2
Kings	78	39	39	......	205	88
Madison	5	4	1	......	......	1
Monroe	19	11	6	2	41	8
Montgomery	4	3	1	......	10	1
New York	923	389	534	......	1,484	253
Niagara	5	5	......	......	17	......
Oneida	6	4	2	......	16	3
Onondaga	7	4	2	1	41	11
Ontario	22	18	4	......	1	4
Orange	6	3	3	......	8	......
Orleans	4	4	......	......	......	1
Otsego	7	5	2	......	1	1
Putnam	2	2	......	......	3	......
Queens	25	16	9	......	22	......
Rensselaer	37	20	17	......	23	......
Richmond	......	......	......	......	......	......
Saratoga	12	12	......	......	11	1
Schenectady	4	3	1	......	5	......
Schoharie	......	......	......	......	5	......
Schuyler	2	......	1	1	9	1
Steuben	8	4	4	......	9	15
Suffolk	7	5	1	1	21	1
Sullivan	1	1	......	......	......	......
Tioga	8	3	5	......	5	2
Ulster	5	5	......	......	3	......
Warren	14	14	......	......	1	......
Westchester	11	8	3	......	......	1
Wyoming	10	8	1	1	11	1
Yates	......	......	......	......	1	......
	1,328	670	650	8	2,085	419

TABLE K.

Giving an abstract of the returns by county clerks of certificates of convictions in courts of special sessions, filed in the respective county clerks' offices during the year ending October 31, 1885.

COUNTY OF BROOME.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
5	November.	5	.....	Disorderly person	Penitentiary.
10		10	.....	Disorderly person	Fine.
1		1	.....	Assault	Jail
1		1	.....	Intoxication	Jail.
2		2	.....	Petit larceny	Penitentiary.
	1885.				
25	April	25	.....	Disorderly person	Fine.
2		2	.....	Disorderly person	Jail.
3		3	.....	Disorderly person	Penitentiary.
1		1	.....	Trespass on cars	Fine.
1		1	.....	Petit larceny	Fine.
3		2	1	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Jail.
3		3	.....	Assault	Penitentiary.
1		1	.....	Assault	Fine.
13		13	.....	Intoxication	Fine.
6		4	2	Intoxication	Jail.
2		2	.....	Tramp	Penitentiary.
14	October	13	1	Disorderly person	Fine.
3		3	.....	Disorderly person	Jail.
20		20	.....	Intoxication	Fine.
5		5	.....	Intoxication	Jail.
2		1	1	Intoxication	Penitentiary.
4		4	.....	Assault	Penitentiary
2		2	.....	Assault	Fine.
1		1	.....	Obscene literature	Penitentiary.
1		1	.....	Petit larceny	House of refuge
4		3	1	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Jail.
1	October	1	..	Habitual drunkard	Penitentiary.
1		1	..	Vagrancy	Penitentiary.
1		1	.....	Trespass on cars	Fine.
1		.....	1	Prostitution	Fine.

COUNTY OF CATTARAUGUS.

	1884.				
3	November.	3	.....	Intoxication	Penitentiary.
1	December	1	.....	Intoxication	Penitentiary.
2		2	.....	Intoxication	Jail.
1		1	.....	Vagrancy	Penitentiary.
1		1	.....	Disorderly person	Penitentiary.
	1885.				
3	January	3	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Fine.
1		1	.....	Malicious mischief	Penitentiary.
2	February	2	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	House of refuge.
1		1	.....	Cruelty to animals	Fine.
1		1	.....	Constructive larceny	Fine.
1		1	.....	Vagrancy	Penitentiary.
1	March	1	.....	Vagrancy	House of refuge
1		1	.....	Vagrancy	Adjudged.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Jail.
2		2	.....	Intoxication	Fine.
2		2	.....	Assault	Fine.

Table K. — County of Cattaraugus — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
3	April	3	......	Intoxication	Fine.
1		1	......	Petit larceny	Fine.
1		......	1	Petit larceny	Penitentiary.
1		1	......	Malicious mischief	Penitentiary.
1		1	......	Vagrancy	Jail.
1	May	1	......	Intoxication	Fine.
1		1	......	Intoxication	Penitentiary.
6		6	......	Vagrancy	Penitentiary.
1	June	1	......	Intoxication	Penitentiary.
4		4	......	Intoxication	Fine.
1		1	......	Gambling	Fine.
1		1	......	Disorderly person	Fine.
2	July	2	......	Violation excise law	Fine.
2		2	......	Intoxication	Fine.
1		1	......	Petit larceny	Fine.
1		1	......	Malicious mischief	Jail.
1		1	......	Assault	Fine.
1	August	1	......	Petit larceny	Penitentiary.
1		1	......	Petit larceny	Fine.
2		2	......	Intoxication	Fine.
1		1	......	Tramp	Penitentiary.
1		1	......	Trespass on cars	Penitentiary.
1		1	......	Assault	Fine.
1	September	1	......	Petit larceny	Jail.
1		1	......	Intoxication	Fine.
1		1	......	Assault	Fine.
1		1	......	Vagrancy	Penitentiary.
2	October	2	......	Intoxication	Penitentiary.
1		1	......	Vagrancy	Penitentiary.
1		1	......	Assault	Penitentiary.
1		1	......	Petit larceny	House of refuge.
1		1	......	Petit larceny	Penitentiary.
1		1	......	Petit larceny	Jail.

COUNTY OF CAYUGA.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
52	November	50	2	Intoxication	Fine.
20		19	1	Intoxication	Jail.
4		4	......	Misdemeanor	Penitentiary.
5		5	......	Misdemeanor	Jail.
3		3	......	Assault	Penitentiary.
10		10	......	Assault	Jail.
1		......	1	Assault	Jail.
1		1	......	Petit larceny	Sentence suspended.
4		2	2	Petit larceny	Jail.
24		24	......	Breach of the peace	Jail.
13		13	......	Breach of the peace	Fine.
1		1	......	Indecent exposure	Fine.
5		5	......	Vagrancy	Jail.
2		1	1	Violation excise law	Fine.
33	December	32	1	Intoxication	Fine.
82		79	3	Intoxication	Jail.
1		......	1	Inmate house of ill-fame	Jail.
1		......	1	Inmate house of ill-fame	Fine.
21		19	2	Breach of the peace	Fine.
27		22	5	Breach of the peace	Jail.
2		1	1	Vagrancy	Jail.
1		......	1	Vagrancy	Fine.
4		3	1	Indecent language	Fine.
9		......	9	Indecent language	Jail.
1		1	......	Carrying concealed weapons	Fine.
3		......	3	Violating excise law	Jail.
5		......	5	Keeping house prostitution	Jail.
1		1	......	Disorderly person	Jail.
5		5	......	Misdemeanor	Penitentiary.
5		5	......	Misdemeanor	Jail.
1		1	......	Assault	Penitentiary.
10		10	......	Assault	Jail.
6		6	......	Petit larceny	Penitentiary.
6		6	......	Petit larceny	Jail

Table K.—County of Cayuga — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	December	1		Petit larceny	House of refuge.
1		1		Disturbing public meeting	Jail.
	1885.				
1	January	1		Indecent exposure	Jail.
20		17	3	Breach of the peace	Jail.
1		1		Malicious mischief	Jail.
1		1		Petit larceny	Penitentiary
1			1	Petit larceny	Sentence suspended.
2		2		Misdemeanor	Jail.
33		32	1	Intoxication	Jail.
2		2		Assault	Jail.
1		1		Indecent language	Jail.
3		3		Violation excise law	Jail.
1	February	1		Assault	Penitentiary.
1		1		Petit larceny	Penitentiary.
4		4		Disorderly person	Jail.
10		10		Intoxication	Jail.
1		1		Indecent exposure	Jail.
1		1		Violation city ordinance	Jail.
1	March	1		Vagrancy	Adjudged.
3		3		Petit larceny	House of refuge
2		2		Petit larceny	Penitentiary.
1			1	Petit larceny	Jail.
1		1		Misdemeanor	Jail.
1		1		Assault	Jail.
12		12		Intoxication	Jail.
3		3		Breach of the peace	Jail
2	April	2		Misdemeanor	Jail.
1		1		Misdemeanor	Penitentiary.
3		3		Assault	Jail.
36		36		Intoxication	Jail.
3		3		Disorderly person	Jail.
8		8		Breach of the peace	Jail.
1		1		Indecent exposure	Jail.
4		4		Indecent language	Jail.
2		2		Violation excise law	Jail.
1	May	1		Disorderly person	Adjudged.
5		5		Disorderly person	Jail.
2		2		Petit larceny	Jail.
2		2		Assault	Jail.
16		16		Intoxication	Jail.
1		1		Misdemeanor	Penitentiary.
1		1		Violation city ordinance	Jail.
8		8		Breach of the peace	Jail.
2	June	2		Vagrancy	Adjudged.
1		1		Petit larceny	Jail.
4		3	1	Petit larceny	Penitentiary.
1		1		Assault	Jail.
1		1		Assault	Penitentiary.
1		1		Disorderly person	Asylum.
2		2		Misdemeanor	Jail.
1		1		Misdemeanor	Asylum.
1		1		Indecent exposure	Penitentiary.
1		1		Rescu'g prison'r from officer	Penitentiary.
1		1		Affray	Jail.
12		9	3	Breach of the peace	Jail.
1		1		Violation excise law	Jail.
40		40		Intoxication	Jail.
52	July	52		Intoxication	Jail.
7		7		Intoxication	Fine.
2		1	1	Vagrancy	Adjudged.
1		1		Assault	Jail.
1		1		Assault	Penitentiary.
1		1		Misdemeanor	Penitentiary.
1		1		Misdemeanor	Fine.
5		5		Misdemeanor	Jail.
2		2		Breach of the peace	Fine
9		9		Breach of the peace	Jail.
5		5		Disorderly person	Jail.
1		1		Indecent exposure	Jail.

Table K.—County of Cayuga—(Continued).

Number of convictions.	When convicted	Males.	Females.	Offense.	Sentence.
	1885.				
1	July	.....	1	Indecent exposure	House of refuge.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Jail.
1		.....	1	Disorderly conduct	Asylum.
3	August	3	.....	Disorderly person	Adjudged.
3		3	.....	Assault	Fine.
1		1	.....	Assault	Jail.
1	April	1	.....	Misdemeanor	Jail.
1		1	.....	Disorderly person	Fine.
1		1	.....	Tramp	Penitentiary.
4	May	3	1	Intoxication	Sentence suspended.
8		7	1	Intoxication	Penitentiary.
81		80	1	Intoxication	Fine.
1		.....	1	Vagrancy	Adjudged.
13		13	.....	Intoxication	Jail.
2		2	.....	Petit larceny	Jail.
4		4	.....	Assault	Jail.
1		1	.....	Trespass on cars	Jail.
1		1	.....	Malicious mischief	Jail.
1		1	.....	Violating city ordinance	Jail.
1		1	.....	Tramp	Penitentiary.
86	June	86	.....	Intoxication	Fine.
5		3	2	Intoxication	Penitentiary.
5		5	.....	Intoxication	Jail.
7		7	.....	Intoxication	Sentence suspended.
1		1	.....	Keeping house of ill-fame	Jail.
7		.....	7	Prostitution	Jail.
4		.....	4	Prostitution	Penitentiary.
1		.....	1	Profanity	Jail.
1		1	.....	Malicious mischief	Penitentiary.
3		3	.....	Assault	Penitentiary.
3		3	.....	Assault	Jail.
1		1	.....	Assault	Fine.
3		1	2	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Jail.
1		1	.....	Petit larceny	House of refuge.
4		3	1	Violating city ordinance	Jail.
2		2	.....	Affray	Jail.
1		1	.....	Disorderly person	Suspended.
1		1	.....	Disorderly person	Fine.
2		2	.....	Misdemeanor	Penitentiary.
2		2	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	House of refuge.
20	July	20	.....	Intoxication	Suspended.
61		60	1	Intoxication	Fine.
8		8	.....	Intoxication	Jail.
4		4	.....	Intoxication	Penitentiary.
2		2	.....	Assault	Penitentiary.
1		1	.....	Assault	Jail.
2		2	.....	Petit larceny	Penitentiary.
4		3	1	Petit larceny	Jail.
1		1	.....	Contempt of court	Penitentiary.
2		1	1	Disorderly person	Jail.
1		1	.....	Keeping gambling house	Jail.
1		.....	1	Vagrancy	Adjudged.
1		1	.....	Trespass on cars	Suspended.
1		1	.....	Trespass on cars	Jail.
1	August	1	.....	Violating city ordinance	Jail.
1		1	.....	Disorderly person	Jail.
1		1	.....	Disorderly person	Penitentiary.
1		1	.....	Disorderly person	Fine.
4		4	.....	Petit larceny	Penitentiary.
10		9	1	Intoxication	Jail.
6		3	3	Intoxication	Penitentiary.
39		39	.....	Intoxication	Fine.
13		13	.....	Intoxication	Suspended.
1		1	.....	Vagrancy	Poor-house.
1		1	.....	Vagrancy	Jail.
1		1	.....	Prize fighting	Fine.
74	September	74	.....	Intoxication	Fine.

Table K. — County of Cayuga — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
3	1885. September.	3	....	Intoxication	Penitentiary.
11		11	....	Intoxication	Suspended.
1		1	.....	Intoxication	Leave town.
9		9	....	Intoxication	Jail.
1		1	.....	Intoxication	Discharged.
1		1	.....	Violating excise law	Jail.
1		1	.....	Assault	Suspended.
1		1	....	Assault	Jail.
1		1	.....	Petit larceny	Suspended.
1		1	.....	Petit larceny	Penitentiary.
1		1	......	Petit larceny	House of refuge.
4		4	......	Trespass on cars	Jail.
1		1	......	Affray	Jail.
1		1	.....	Cruelty to animals	Fine.
1		1	.....	Disposing of mortg'd prop	Fine.
2		2	....	Misdemeanor	Fine.
1		1	.....	Vagrancy	Poor-house.
2		2	.....	Tramp	Penitentiary.
2	August	2	...	Misdemeanor	Penitentiary.
2		2	.....	Misdemeanor	Fine.
62		59	3	Intoxication	Fine.
13		12	1	Intoxication	Jail.
21		21	......	Breach of the peace	Jail.
3		2	1	Breach of the peace	Fine.
2		1	1	Vagrancy	Adjudged.
1		1	......	Petit larceny	Penitentiary.
1		1	......	Petit larceny	Jail.
1		1	..	Petit larceny	Fine.
1		1	.....	Petit larceny	House of refuge.
3	October	3	......	Intoxication	Fine
1		1	......	Assault	Penitentiary.
3		3	....	Assault	Jail.
1		1	......	Petit larceny	Jail.
1		1	......	Malicious mischief	Jail.
				COUNTY OF CHAUTAUQUA.	
3	1884. November	2	1	Vagrancy	House of refuge.
11		11	......	Vagrancy	Adjudged.
1		1	....	Petit larceny	Fine.
1		1	......	Petit larceny	Jail.
4		4	......	Intoxication	Fine.
2		2	......	Intoxication	Penitentiary.
1		1	....	Intoxication	Jail.
1		1	......	Tramp	Penitentiary.
6		1	5	Assault	Fine.
2		2	......	Assault	Jail.
1	1885. January	1	....	Assault	Penitentiary.
2		2	......	Assault	Fine.
1		1	......	Petit larceny	Penitentiary.
3		3	.....	Vagrancy	Sentence suspended.
10		8	2	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Penitentiary.
1		1	......	Intoxication	Penitentiary.
1		1	......	Indecent language	Jail.
5	February	5	.....	Vagrancy	Adjudged.
3		3	......	Vagrancy	Jail.
2		2	......	Petit larceny	Penitentiary.
7		7	......	Petit larceny	House of refuge.
1		1	......	Petit larceny	Fine.
2		2	....	Assault	Jail.
2		2	......	Intoxication	Penitentiary.
1	March	1	.....	Constructive larceny	Penitentiary.
1		1	....	Vagrancy	Adjudged
1		1	.....	Vagrancy	Penitentiary.
2		......	2	Vagrancy	Jail.
1		1	....	Petit larceny	House of refuge.
1		1	.....	Intoxication	Fine.
3		3	......	Intoxication	Penitentiary.

Table K. — *County of Chautauqua* — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	April	1		Malicious mischief	Jail.
40		40		Vagrancy	Adjudged.
1		1		Vagrancy	Jail.
1		1		Assault	Fine.
1		1		Assault	Penitentiary.
1		1		Petit larceny	Jail.
1		1		Intoxication	Sentence suspended.
3		3		Disorderly person	Adjudged.
1		1		Violation excise law	Penitentiary.
1	May	1		Intoxication	Fine.
2		2		Intoxication	Sentence suspended.
2		2		Intoxication	Jail.
1		1		Intoxication	Adjudged.
1		1		Petit larceny	Jail.
6	June	6		Vagrancy	Adjudged.
1		1		Intoxication	Fine.
1		1		Breach of peace	Fine.
5	July	5		Disorderly person	Adjudged.
5		5		Assault	Fine.
2		2		Petit larceny	House of refuge.
2		2		Petit larceny	Jail.
1		1		Intoxication	Jail.
3		3		Intoxication	Fine.
1		1		Intoxication	Penitentiary.
1		1		Intoxication	Sentence suspended.
6		6		Indecent exposure	Sentence suspended.
2		2		Vagrancy	Adjudged.
2		2		Vagrancy	Sentence suspended.
1	August	1		Disorderly person	Fine.
1		1		Disorderly person	Adjudged.
2		2		Disorderly person	Jail.
1		1		Assault	Penitentiary.
5		5		Assault	Fine.
1		1		Assault	Jail.
8		8		Intoxication	Penitentiary.
2		2		Intoxication	Jail.
5		5		Intoxication	Fine.
3		2	1	Vagrancy	Adjudged.
1	September	1		Petit larceny	Fine.
1		1		Assault	Penitentiary.
4		4		Assault	Fine.
7		7		Intoxication	Fine.
1		1		Intoxication	Penitentiary.
2		2		Intoxication	Jail.
1		1		Disorderly person	Jail.
1			1	Disorderly person	Adjudged.
1		1		Vagrancy	Sentence suspended.
1	October	1		Assault	Penitentiary.
3		3		Intoxication	Fine.
1		1		Intoxication	Penitentiary.
7		7		Intoxication	Jail.
1		1		Contempt of court	Jail.
1		1		Malicious mischief	Jail.
1		1		Petit larceny	Jail.

COUNTY OF CHEMUNG.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
36	January	35	1	Intoxication	Fine.
7		7		Intoxication	Sentence suspended.
5		5		Intoxication	Jail.
6		5	1	Intoxication	Penitentiary.
1		1		Assault	Penitentiary.
2		2		Assault	Jail.
4		4		Petit larceny	Penitentiary.
1		1		Petit larceny	Sentence suspended.
2		2		Petit larceny	House of refuge.
1		1		Disorderly person	Penitentiary.
1		1		Public nuisance	Sentence suspended.
2		2		Breach of the peace	Jail.
1		1		Violation city ordinance	Fine.

Table K.—County of Chemung—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
46	1885. February...	45	1	Intoxication	Fine.
8		7	1	Intoxication	Jail.
3		2	1	Intoxication	Penitentiary.
5		5	......	Intoxication	Sentence suspended.
2		2	......	Petit larceny	Sentence suspended.
2		2	......	Petit larceny	Jail
2		2	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Fine.
2		2	......	Violation city ordinance	Jail.
2		2	.....	Breach of the peace	Jail.
2		2	......	Vagrancy	Penitentiary
2		1	1	Vagrancy	Jail.
25	March......	24	1	Intoxication	Fine.
2		2	......	Intoxication	Penitentiary.
6		6	.....	Intoxication	Sentence suspended.
9		9	.....	Intoxication	Jail.
2		2	......	Violation city ordinance	Jail.
1		1	......	Disorderly person	Jail.
1		1	.....	Assault	Jail.
1		1	.....	Assault	Fine.
1		1	.....	Petit larceny	Jail.
2		2	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	House of refuge.
2		1	1	Vagrancy	Adjudged.
3		3	.....	Vagrancy	Penitentiary.
2	April.......	2	.....	Affray	Jail.
1		1	......	Trespass on cars	Sentence suspended.
1		1	......	Vagrancy	Sentence suspended.
1		1	......	Vagrancy	Poor-house.
1		1	......	Vagrancy	Jail.
1		1	......	Vagrancy	Adjudged.
1		1	.....	Assault	Fine.
2		2	......	Assault	House of refuge.
1		1	......	Disorderly person	Penitentiary.
4		2	2	Disorderly person	Jail.
1		1	.....	Disorderly person	Fine.
1		1	.....	Carrying slung shot	Sentence suspended.
2		2	....	Petit larceny	Penitentiary.
1		1	......	Violating game law	Fine.
37		36	1	Intoxication	Fine.
7		6	1	Intoxication	Jail.
10		10	.....	Intoxication	Sentence suspended.

COUNTY OF CHENANGO.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
1	1885. February...	1	......	Excluding colored person from skating rink	Fine.
1		1	......	Assault	Jail.
3	July.........	3	.....	Intoxication	Fine.
1		1	.....	Petit larceny	Jail.
2	August.....	2	......	Intoxication	Jail
6		6	.....	Intoxication	Fine.
7		7	.....	Vagrancy	Adjudged.
1		1	.....	Petit larceny	Jail.
10	September.	10	......	Intoxication	Fine.
1		1	......	Petit larceny	Fine.
1		1	......	Assault	Bail.
10	October....	10	.....	Intoxication	Fine.
2		2	.....	Intoxication	Jail.
1		1	.....	Violation excise law	Jail.
1		1	....	Violation excise law	Fine.

COUNTY OF COLUMBIA.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
1	1884. November..	1	......	Malicious mischief	Fine.
23		20	3	Intoxication	Fine.
2		2	......	Intoxication	Jail.
4		4	......	Petit larceny	Penitentiary.
3		3	......	Petit larceny	Fine.
4		4	......	Petit larceny	Jail.

Table E. — County of Columbia —(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
2	November .	2	......	Assault	Penitentiary.
7		5	2	Assault	Fine.
1		1	......	Assault	Suspended.
1		1	.....	Disorderly person	House of refuge.
1		1	.....	Tramp	Penitentiary.
2		.. .	2	Vagrancy	House of refuge.
8		8	......	Vagrancy	Adjudged.
9	December .	9	......	Intoxication	Fine.
1		1	... ..	Intoxication	Jail.
2		2	......	Vagrancy	Adjudged.
1		1	......	Attempted assault	Jail.
	1885.				
1	January. ..	1	... ..	Disorderly person	Jail.
1		1	......	Petit larceny	House of refuge.
1		1	. . . .	Assault	Fine.
1		1	......	Assault	Jail.
2		2	....	Vagrancy	Adjudged.
1		1	......	Vagrancy	Jail.
1		1	......	Vagrancy	Fine.
1		1	.....	Intoxication	Fine.
1		1	.. ..	Intoxication	Jail
1		1	.....	Misdemeanor	Penitentiary.
1	February...	1	... ..	Petit larceny	Jail.
2		2	.....	Intoxication	Jail.
3		3	. ....	Intoxication	Fine.
1		1	......	Vagrancy	Penitentiary.
6		6	.....	Vagrancy	Jail.
5		5	......	Vagrancy	Adjudged.
1		1	.. ..	Vagrancy	Poor-house.
1	March.. ...	1	... ..	Vagrancy	Adjudged.
3		3	... ..	Vagrancy	Jail.
4		4	.....	Intoxication	Fine.
9		9	.....	Intoxication	Jail.
3	April..... .	3	.....	Intoxication	Fine.
2	May	2	......	Intoxication	Fine.
1		1	......	Petit larceny	Penitentiary.
2		2	.....	Vagrancy	Adjudged.
1		1	.. ...	Vagrancy	Jail.
1	June........	1	.....	Assault	Penitentiary.
2		2	....	Intoxication	Fine.
1		1	. .. .	Intoxication	Jail.
1		1	......	Violating Penal Code	Fine.
1	July	1	......	Vagrancy	Jail.
1		1	.. ..	Vagrancy	Poor-house.
1		1	......	Intoxication	Fine.
1		1	.... .	Malicious mischief	Penitentiary.
3	August	3	.....	Intoxication	Fine
1		1	......	Vagrancy	Adjudged.
1		1	......	Vagrancy	Fine.
1	September..	1	.....	Intoxication	Jail.
1		1	.. ..	Petit larceny	Penitentiary.
1		1	......	Vagrancy	Fine.
3	October ...	3	......	Vagrancy	Poor-house.
1		1	......	Vagrancy	Jail.
1		1	......	Tramp	Penitentiary.
2		2	... ..	Assault	Penitentiary.
2		2	......	Assault	Fine.
1		1	......	Violating game law	Fine.

COUNTY OF CORTLAND.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
6	November..	6	......	Intoxication	Fine.
1		1	......	Assault	Fine.
	1885.				
13	December.	13	......	Intoxication	Fine.
1		1	... ..	Assault	Jail.
3		3	... ..	Vagrancy	Adjudged.
1		1	......	Cruelty to animals	Jail.
1		1	.....	Cruelty to animals	Fine.
3	January ..	3	......	Intoxication	Fine.

Table K. — County of Cortland — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
6	February	6	......	Intoxication	Fine.
2		2	......	Vagrancy	Adjudged.
1		1	......	Vagrancy	Penitentiary.
8	March	8	......	Intoxication	Fine.
1		1	......	Petit larceny	Penitentiary.
3		......	3	Vagrancy	Adjudged.
9	April	9	......	Intoxication	Fine.
25		24	1	Vagrancy	Adjudged.
3		3	......	Petit larceny	Jail.
1		1	......	Trespass on cars	Fine.
1		1	......	Assault	Penitentiary.
7	May	7	......	Intoxication	Fine.
1		1	......	Petit larceny	Jail.
1		1	......	Assault	Jail.
2		2	......	Defrauding hotel keeper	Jail.
5	June	5	......	Intoxication	Fine.
2	July	2	......	Vagrancy	Adjudged.
2		2	......	Assault	Jail.
1		1	......	Assault	Penitentiary.
1		1	......	Assault	Fine.
9		9	......	Intoxication	Fine.
2		2	......	Intoxication	Jail.
14	August	14	......	Intoxication	Fine.
1		1	......	Assault	Fine.
1		1	......	Vagrancy	Poor-house.
4		4	......	Vagrancy	Adjudged.
1		1	......	Tramp	Penitentiary.
1		1	......	Petit larceny	Penitentiary.
1		1	......	Trespass on cars	Fine.
14	September	14	......	Intoxication	Fine.
1		1	......	Disorderly person	Adjudged.
1		1	......	Vagrancy	Adjudged.
11	October	11	......	Intoxication	Fine.
2		2	......	Assault	Fine.
3		3	......	Vagrancy	Adjudged.
1		1	......	Disorderly person	Adjudged.

COUNTY OF DELAWARE.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November	1	......	Assault	Fine.
1		1	......	Intoxication	Fine.
1		1	......	Vagrancy	Adjudged.
	1885.				
2	January	2	......	Intoxication	Fine.
1		1	......	Disorderly person	Adjudged.
3	February	3	......	Intoxication	Fine.
1	April	1	......	Indec't exposure of person	Fine.
1	July	1	......	Vagrancy	Adjudged.
2	August	2	......	Intoxication	Fine.
1		1	......	Disorderly conduct	Fine.
1	October	1	......	Trespass	Jail.
6		6	......	Violating excise law	Fine.
3		3	......	Petit larceny	House of refuge.
1		1	......	Petit larceny	Jail.
1		1	......	Violating game law	Fine.
1		1	......	Assault	Fine.

COUNTY OF DUTCHESS.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November	1	......	Petit larceny	Fine.
5		5	......	Petit larceny	Penitentiary.
3		3	......	Petit larceny	Jail.
1		1	......	Malicious mischief	Fine.
8		8	......	Assault	Fine.
1		1	......	Assault	Penitentiary.
1		1	......	Disorderly conduct	Fine.
1		......	1	Disorderly person	Penitentiary.
12		11	1	Vagrancy	Adjudged.
29		29	......	Intoxication	Fine.
1		1	......	Intoxication	Jail.
1		1	......	Illegal voting	Jail.

Table K. — County of Dutchess—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November .	1	.....	Assault	Jail.
1	December..	1	.....	Petit larceny	Penitentiary.
3		3	.....	Tramp	Penitentiary
1		1	.....	Assault	Fine.
14		14	.....	Intoxication	Fine.
8		8	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Jail.
1		1	.....	Disorderly person	Penitentiary.
1		1	.....	Disorderly person	Fine.
1		1	.....	Vagrancy	Penitentiary.
1		1	.....	Petit larceny	Fine.
	1885.				
1	January....	1	.....	Disorderly person	Adjudged.
1		1	.....	Vagrancy	Penitentiary.
2		2	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Adjudged.
12		12	.....	Intoxication	Fine.
1		1	.....	Petit larceny	Jail.
10	February.	9	1	Vagrancy	Adjudged.
1		1	.....	Assault	Jail.
4		3	1	Assault	Fine.
1		1	.....	Petit larceny	Jail
1		1	.....	Intoxication	Jail.
1		1	.....	Disorderly conduct	Fine.
8		8	.....	Intoxication	Fine.
1	March......	1	.....	Assault	Fine.
3		3	.....	Assault	Jail.
8		8	.....	Vagrancy	Adjudged.
2		2	.....	Disorderly person	House of refuge.
11		10	1	Intoxication	Fine.
2		2	.....	Intoxication	Jail.
3		3	.....	Petit larceny	Jail.
23	April........	21	2	Intoxication	Fine.
6		6	.....	Vagrancy	Adjudged.
1		1	.....	Assault	Jail.
3		3	.....	Assault	Penitentiary.
2		2	.....	Petit larceny	Jail.
3	May	3	.....	Breach of the peace	Fine.
1		1	.....	Keeping disorderly house	Penitentiary.
1		1	.....	Petit larceny	Jail.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Disorderly child	House of refuge
20		20	.....	Intoxication	Fine.
2		2	.....	Intoxication	Jail
3	June	3	.....	Petit larceny	Fine.
1		.....	1	Petit larceny	Jail.
14		14	.....	Intoxication	Fine.
1		1	.....	Disorderly person	Penitentiary.
2		2	.....	Disorderly person	Fine.
1		1	.....	Disorderly person	Bonded.
5		5	.....	Assault	Fine.
3		3	.....	Assault	Penitentiary.
3		2	1	Assault	Jail.
1	July........	1	.....	Disorderly person	Adjudged.
4		4	.....	Intoxication	Fine.
1		1	.....	Petit larceny	Fine.
1		1	.....	Cruelty to animals	Jail.
1	September.	1	.....	Assault	Penitentiary.
4		4	.....	Assault	Fine.
1		1	.....	Intoxication	Jail.
4		4	..	Petit larceny	Jail.
2		2	.....	Petit larceny	Fine.
2		2	.....	Petit larceny	Penitentiary.
4		4	.....	Disorderly person	Fine.
2		2	.....	Disorderly person	Penitentiary.
2		2	.....	Disorderly person	Adjudged.
1	October....	1	.....	Cruelty to animals	Penitentiary.
18		18	.....	Vagrancy	Adjudged.
75		75	.....	Intoxication	Fine.
1		1	.....	Disorderly conduct	Penitentiary.

Table K.—County of Dutchess—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	October	1	......	Disorderly conduct	Jail.
1		1	......	Disorderly person	Penitentiary
1		1	......	Disorderly person	Jail.
				COUNTY OF ERIE.	
	1884.				
160	November	128	32	Intoxication	Fine.
5		5	......	Vagrancy	Asylum.
1		1	......	Vagrancy	Suspended.
2		2	......	Vagrancy	Penitentiary.
2		1	1	Vagrancy	Fine.
97		95	2	Vagrancy	Adjudged.
4		4	......	Malicious mischief	Fine.
1		1	......	Malicious mischief	Penitentiary.
19		19	......	Assault	Fine.
2		1	1	Assault	Penitentiary.
1		......	1	Assault	Suspended.
23		5	18	Violating excise law	Fine.
14		12	2	Petit larceny	Penitentiary.
1		1	......	Petit larceny	House of refuge
25		25	......	Petit larceny	Fine.
1		1	......	Petit larceny	Suspended.
77		37	40	Disorderly conduct	Fine.
102	December	75	27	Intoxication	Fine.
4		4	......	Malicious mischief	Fine.
1		1	......	Disorderly person	Penitentiary.
1		1	......	Indecent exposure	Fine.
17		17	......	Assault	Fine.
2		2	......	Assault	Penitentiary.
2		2	......	Assault	Suspended.
94		87	7	Vagrancy	Adjudged.
3		3	......	Vagrancy	Asylum.
24		23	1	Vagrancy	Penitentiary.
59		54	5	Petit larceny	Fine.
1		......	1	Petit larceny	Suspended.
13		12	1	Petit larceny	Penitentiary.
7		7	......	Petit larceny	House of refuge.
90		57	33	Disorderly conduct	Fine.
4		......	4	Violating excise	Fine.
	1885.				
76	January	53	23	Intoxication	Fine.
5		3	2	Malicious mischief	Fine.
2		2	......	Violating excise	Fine.
1		1	......	Disorderly person	Penitentiary.
7		7	......	Violating city ordinance	Fine.
1		1	......	Defrauding hotel keeper	Penitentiary.
1		1	......	Keeping gambling house	Fine.
5		3	2	Vagrancy	Asylum.
13		12	1	Vagrancy	Penitentiary.
72		70	2	Vagrancy	Adjudged.
4		4	......	Assault	Penitentiary.
16		16	......	Assault	Fine.
2		2	......	Assault	Suspended.
3		2	1	Petit larceny	Penitentiary.
26		25	1	Petit larceny	Fine.
5		5	......	Petit larceny	House of refuge.
49		31	18	Disorderly conduct	Fine.
68	February	40	28	Intoxication	Fine.
4		4	......	Malicious mischief	Fine.
10		10	......	Assault	Fine.
2		2	......	Disorderly person	Suspended.
1		1	......	Defrauding hotel keeper	Jail.
1		1	......	Indecent exposure	Penitentiary.
1		1	......	Vagrancy	Penitentiary.
80		79	1	Vagrancy	Adjudged.
2		1	1	Violating excise	Fine.
31		29	2	Petit larceny	Fine.
10		10	......	Petit larceny	Penitentiary.
2		2	......	Petit larceny	Suspended.
2		2	......	Petit larceny	Asylum.

Table K. — County of Erie — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
5	February	5		Petit larceny	House of refuge.
81		46	35	Disorderly conduct.	Fine.
24	March	23	1	Intoxication	Fine.
1		1		Disorderly person	Penitentiary.
1		1		Disorderly person	Fine.
57		31	26	Disorderly conduct	Fine.
1		1		Violating excise	Fine.
1		1		Malicious mischief	Fine.
1		1		Gambling	Fine.
1		1		Assault	Penitentiary.
9		9		Assault	Fine.
8		8		Assault	Suspended.
1		1		Vagrancy	Asylum.
5		4	1	Vagrancy	Penitentiary.
75		75		Vagrancy	Adjudged.
2			2	Vagrancy	House of refuge.
2			2	Vagrancy	Ingleside home.
1		1		Lottery	Fine.
1		1		Truancy	Asylum.
41		37	4	Petit larceny	Fine.
17		16	1	Petit larceny	Fine.
1		1		Petit larceny	Suspended.
1		1		Petit larceny	House of refuge.
4		4		Petit larceny	Asylum.
2	April	2		Intoxication	Suspended.
98		58	40	Intoxication	Fine.
2		2		Malicious mischief	Fine.
1		1		Indecent exposure	Fine.
5		3	2	Vagrancy	Work-house.
11		5	6	Vagrancy	Adjudged.
13		13		Vagrancy	Penitentiary.
1			1	Vagrancy	Fine.
4		2	2	Assault	Suspended.
20		19	1	Assault	Fine.
1		1		Violating game law	Fine.
4		4		Petit larceny	Penitentiary.
48		42	6	Petit larceny	Fine.
3		2	1	Petit larceny	Asylum.
81		34	47	Disorderly conduct	Fine.
1		1		Disorderly person	Fine.
1		1		Violating excise	Fine.
1	May	1		Rescuing prisoner	Fine.
1		1		Carrying fire arms	Fine.
4		4		Malicious mischief	Fine.
1		1		Malicious mischief	Suspended.
54		53	1	Vagrancy	Adjudged.
1			1	Vagrancy	Suspended.
15		15		Vagrancy	Poor-house.
5		5		Vagrancy	Penitentiary.
1		1		Violating excise	Fine
2		2		Affray	Fine.
1		1		Assault	Penitentiary.
2		2		Assault	Fine.
104		74	30	Disorderly conduct	Fine.
2		2		Disorderly conduct	Penitentiary.
2		2		Destitute	Catholic protectory.
3		3		Petit larceny	Penitentiary
1		1		Petit larceny	House of refuge.
2		2		Defrauding hotel keeper	Penitentiary.
1		1		Cruelty to animals	Fine.
2		2		Violating park ordinance	Fine.
115		77	38	Intoxication	Fine.
1		1		Intoxication	Suspended.
1		1		Obstructing street railway	Fine.
1	June	1		Violating game law	Fine.
1		1		Truancy	Catholic protectory.
182		178	4	Vagrancy	Adjudged.
1		1		Intoxication	Suspended.
198		153	45	Intoxication	Fine.
1		1		Intoxication	Work-house.

Table K. — County of Erie — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
128	June....	91	37	Disorderly person	Fine.
2		2	......	Disorderly person	Penitentiary.
17		17	..	Disorderly person	Jail.
29		23	6	Assault	Fine.
2		2	..	Assault	Suspended.
5		4	1	Assault	Penitentiary
2		2	.....	Indecent exposure	Penitentiary.
2		2	.. ..	Petit larceny	Jail.
34		31	3	Petit larceny	Fine.
1		1	....	Petit larceny	House of refuge.
1		1	...	Cruelty to animals	Fine.
2		1	1	Malicious mischief	Fine.
1		......	1	Malicious mischief	Suspended.
1		1	.....	Defrauding hotel keeper	Fine
1	July	1	.. ..	Intoxication	Suspended.
229		176	53	Intoxication	Fine.
3		3	.....	Intoxication	Penitentiary.
118		63	55	Disorderly conduct	Fine.
83		80	3	Vagrancy	Work-house.
29		29	......	Vagrancy	Adjudged.
32		27	5	Assault	Fine.
3		3	.. ..	Assault	Suspended.
3		3	......	Assault	Penitentiary.
21		13	8	Petit larceny	Penitentiary.
2		2	......	Petit larceny	Suspended.
30		25	5	Petit larceny	Fine.
2		2	......	Petit larceny	Work-house.
4		2	2	Petit larceny	House of refuge.
1		1	......	Petit larceny	Asylum.
1		1	... .	Violating park ordinance	Fine.
1		......	1	Keeping house prostitution	Fine.
1		1	......	Violating penal code	Fine
17		16	1	Vagrancy	Penitentiary.
4		4	....	Vagrancy	Fine.
1		1	.....	Vagrancy	Asylum.
1		1	......	Malicious mischief	Penitentiary.
1		1	......	Cruelty to animals	Penitentiary.
1		1	......	Cruelty to children	Fine.
1		1	.....	Assault	Work-house.
1		1	.....	Assault	Penitentiary.
4		4	... ..	Assault	Fine.
1		1	......	Indecent exposure	Penitentiary.
1		1	.. ..	Disorderly person	Penitentiary.
3		3	......	Disorderly person	Jail.
1		1	......	Violating excise	Fine.
126	August.....	69	57	Disorderly conduct	Fine.
21		19	2	Petit larceny	Fine.
3		3	.. ..	Petit larceny	House of refuge.
2		......	2	Petit larceny	Work-house.
1		1	......	Petit larceny	Suspended.
8		8	......	Petit larceny	Penitentiary
62		58	4	Vagrancy	Adjudged.
21		19	2	Vagrancy	Work-house.
8		8	......	Vagrancy	Penitentiary.
5		5	.....	Malicious mischief	Fine.
1		1	... ..	Malicious mischief	Penitentiary.
1		1	......	Malicious mischief	Suspended.
1		1	... ..	Selling lottery tickets	Fine.
1		1	....	Selling lottery tickets	Suspended.
1		1	......	Indecent exposure	Penitentiary.
5		5	......	Violating excise	Fine.
3		3	......	Truancy	Asylum.
1		1	......	Keeping gambling house	Fine.
13		11	2	Assault	Suspended.
2		2	.....	Assault	Penitentiary.
17		16	1	Assault	Fine.
2		2	......	Intoxication	Penitentiary.
217		157	60	Intoxication	Fine.
1		1	. ....	Tramp	Penitentiary.
5		......	5	Disorderly person	Penitentiary.

Table K. — County of Erie — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	August. ..	1	......	Disorderly person	Bonded.
96	September.	58	38	Disorderly conduct	Fine.
1		..	1	Disorderly conduct	Bail.
1		1	....	Disorderly conduct	Penitentiary.
144		113	31	Intoxication	Fine.
1		1	.....	Intoxication	Penitentiary.
45		43	2	Vagrancy	Adjudged
1		1	......	Vagrancy	Penitentiary.
1		1	....	Indecent exposure	Penitentiary.
4		4	.....	Petit larceny	Penitentiary.
2		2	......	Assault	Penitentiary.
1		1	......	Tramp	Penitentiary.
158	October ..	120	38	Intoxication	Fine.
1		1	......	Intoxication	Suspended.
29		27	2	Assault	Fine.
4		3	1	Assault	Suspended.
2		2	.....	Assault	Penitentiary.
77		68	9	Vagrancy	Adjudged.
50		42	8	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Reformatory.
111		61	50	Disorderly conduct	Fine.
1		1	......	Assault	Work-house.
1		1	......	Assault	Penitentiary.
4		4	......	Assault	Fine.
2		2	......	Cruelty to animals	Fine.
4		4	.....	Defrauding hotel keeper	Penitentiary.
2		2	.....	Keeping gambling house	Fine.
3		2	1	Disorderly person	Asylum.
3		1	2	Malicious mischief	Fine.
1		1	.....	Malicious mischief	Suspended.
5		2	3	Truancy	Asylum.
1		1	.....	Violating excise	Fine.

COUNTY OF ESSEX.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November .	1	......	Violating game law	Fine.
1		1	......	Petit larceny	Jail.
1	December .	1	.....	Assault	Jail.
3		3	.....	Vagrancy	Adjudged.
	1885.				
1	January...	1	......	Intoxication	Fine.
2	February...	2	.....	Intoxication	Fine.
1	March......	1	.....	Petit larceny	Fine.
1		1	......	Petit larceny	Jail.

COUNTY OF FRANKLIN.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	December .	1	......	Assault	Jail.
1		1	......	Assault	Fine.
12		12	......	Intoxication	Fine.
2		2	......	Vagrancy	Adjudged.
6		6	....	Vagrancy	Jail.
	1885.				
18	January. ..	18	....	Intoxication	Fine.
17		17	......	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Jail.
2		2	......	Assault	Fine.
3		3	......	Petit larceny	Jail.
8	February ..	8	......	Vagrancy	Adjudged.
20		20	.....	Intoxication	Fine.
1		1	.....	Petit larceny	Jail.
1		1	......	Assault	Fine.
9	March	9	......	Intoxication	Fine
6		6	......	Vagrancy	Adjudged.
1		1	.....	Cruelty to animals	Fine.
1		1	.....	Assault	Jail.
2		2	.....	Breach of the peace	Jail.
21	April	21	......	Intoxication	Fine.
4		4	......	Affray	Fine.
1		1	......	Vagrancy	Adjudged.

Table K. — County of Franklin — (Continued).

Number of convictions.	When convicted	Males.	Females.	Offense.	Sentence.
4	1885. April	4		Assault	Fine.
1		1		Breach of the peace	Fine.
18	May	17	1	Intoxication	Fine.
1		1		Vagrancy	Adjudged.
1		1		Petit larceny	Jail.
2		2		Assault	Fine.
1		1		Breach of the peace	Fine.
11	June	11		Intoxication	Fine.
2		2		Vagrancy	Adjudged.
1		1		Assault	Fine.
1		1		Assault	Jail.
1		1		Indecent exposure	Fine.
1	July	1		Intoxication	Jail.
8		8		Intoxication	Fine.
3		3		Vagrancy	Adjudged.
1		1		Assault	Jail.
1		1		Malicious mischief	Fine.
1		1		Petit larceny]	Fine.
24	August	24		Intoxication	Fine.
4		4		Vagrancy	Adjudged.
3		3		Assault	Fine.
2		2		Petit larceny	Jail.
33	September	33		Intoxication	Fine.
5		5		Breach of the peace	Fine.
1		1		Affray	Fine.
3		3		Assault	Fine.
1		1		Vagrancy	Adjudged.
1	October	1		Vagrancy	Adjudged.
18		18		Intoxication	Fine.
1		1		Trespass	Fine.
3		3		Petit larceny	Fine.
1		1		Petit larceny	Adjudged.
1		1		Petit larceny	Jail.
2		2		Assault	Fine.

COUNTY OF FULTON.

Number of convictions.	When convicted	Males.	Females.	Offense.	Sentence.
1	1884. November	1		Disorderly person	Penitentiary.
1		1		Assault	Fine.
36	December	36		Disorderly person	Adjudged.
1		1		Petit larceny	Penitentiary.
8		8		Vagrancy	Adjudged.
4		4		Intoxication	Fine.
1		1		Assault	Fine.
8	1885. January	8		Vagrancy	Adjudged.
1		1		Intoxication	Jail.
9		9		Intoxication	Fine.
22		22		Disorderly person	Adjudged.
2		2		Assault	Penitentiary.
1		1		Assault	Fine.
5	February	5		Vagrancy	Penitentiary.
1		1		Vagrancy	Jail.
16		16		Vagrancy	Adjudged.
25		25		Disorderly person	Adjudged.
17		17		Intoxication	Fine.
4		4		Intoxication	Jail.
2		2		Petit larceny	Penitentiary.
33	March	33		Vagrancy	Adjudged.
21		21		Intoxication	Fine.
9		9		Disorderly person	Adjudged.
4	April	4		Vagrancy	Adjudged.
2		2		Disorderly person	Adjudged.
1		1		Violating excise	Fine.
1	May	1		Violating excise	Fine.
1		1		Petit larceny	House of refuge.
5		5		Disorderly person	Fine.
8		8		Disorderly person	Adjudged.
14		14		Intoxication	Fine.
1		1		Assault	Penitentiary.

Table K. — County of Fulton — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	May	1	.....	Assault	Fine.
4		4	......	Vagrancy	Adjudged.
1		1	.....	Breach of the peace	Penitentiary.
10	June	10	......	Intoxication	Fine.
1		1	......	Disorderly person	Fine.
1		1	.....	Assault	Penitentiary.
1		1	.....	Assault	Fine.
1		1	.....	Vagrancy	Adjudged.
4	July	4	.....	Disorderly person	Fine.
1		1	......	Disorderly person	Adjudged.
1		1	.....	Forgery	Bail.
1		1	......	Petit larceny	Bail.
8	August	8	.....	Intoxication	Fine.
1		1	......	Intoxication	Penitentiary.
2		2	......	Intoxication	Jail.
2		2	....	Assault	Penitentiary.
2		2	......	Vagrancy	Adjudged.

COUNTY OF GENESEE.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	January	1	......	Intoxication	Jail.
1	February	1	......	Vagrancy	Jail.
1		1	......	Intoxication	Jail.
1	March	1	......	Intoxication	Jail.
1		1	......	Disorderly person	Adjudged.
1	April	1	....	Vagrancy	Adjudged.
1		1	......	Disorderly person	Penitentiary.
1	May	1	......	Disorderly person	Jail.
6	June	6	......	Vagrancy	Adjudged.
3		3	.....	Misdemeanor	Jail.
6		6	......	Intoxication	Jail.
1		1	......	Petit larceny	Penitentiary.
1	July	1	.....	Misdemeanor	Jail.
3		3	......	Intoxication	Suspended.
2		2	....	Intoxication	Fine.
3		3	.....	Intoxication	Jail.
7		7	.....	Vagrancy	Jail.
1		1	......	Vagrancy	Penitentiary
1	August	1	......	Assault	Jail.
1		1	......	Assault	Suspended.
4		4	......	Assault	Fine.
1		1	......	Assault	Penitentiary.
1		1	......	Violating excise	Fine.
1	September.	1	......	Assault	Jail.
2		2	......	Assault	Fine.
3		3	.....	Intoxication	Jail.
2		2	.....	Intoxication	Penitentiary
1		1	......	Misdemeanor	Jail.
1	October	1	......	Petit larceny	Discharged.
1		1	......	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Fine.
13		13	......	Tramp	Penitentiary.
5		5	.....	Trespass on cars	Jail.

COUNTY OF HERKIMER.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
21	November	21	......	Vagrancy	Adjudged.
2		2	......	Petit larceny	Penitentiary.
2		2	.....	Intoxication	Fine.
1		1	......	Tramp	Penitentiary.
40	December	40	......	Vagrancy	Adjudged.
1		1	......	Vagrancy	Jail.
3		3	......	Intoxication	Fine.
1		1	......	Intoxication	Jail.
1		1	......	Assault	Penitentiary.
5		5	......	Tramp	Penitentiary.
2		2	......	Petit larceny	Fine.
	1885.				
67	January	67	......	Vagrancy	Adjudged.
1		1	......	Tramp	Penitentiary.

Table K.—County of Herkimer—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	January	1	......	Assault	Penitentiary.
51	February	51	......	Vagrancy	Adjudged.
2		2	......	Intoxication	Fine.
20	March	20	......	Vagrancy	Adjudged.
1		1	......	Tramp	Penitentiary.
1		1	......	Disorderly person	Adjudged.
32	April	32	......	Vagrancy	Adjudged.
1		1	......	Keeping gambling house	Fine.
1		1	......	Murder	Death.
1		1	......	Assault	Jail.
2		2	......	Petit larceny	Penitentiary.
2		2	......	Intoxication	Fine.
1		1	......	Misdemeanor	Penitentiary.
2		2	......	Disorderly person	Adjudged.
3	May	3	......	Vagrancy	Adjudged.
5		5	......	Intoxication	Fine.
1		1	......	Intoxication	Penitentiary.
2		2	......	Intoxication	Jail.
1		1	......	Petit larceny	Penitentiary.
1		1	......	Assault	Penitentiary.
6		6	......	Intoxication	Fine.
1		1	......	Vagrant	Adjudged.
1		1	......	Assault	Penitentiary.
1		1	......	Assault	Fine.
1		1	......	Trespass on cars	Fine.
1		......	1	Breach of the peace	Jail.
3	July	3	......	Vagrancy	Adjudged.
2		2	......	Assault	Fine.
1		1	......	Assault	Bonded.
1		1	......	Assault	Jail.
1		1	......	Assault	Penitentiary.
4		4	......	Intoxication	Fine.
12	August	12	......	Vagrancy	Adjudged.
4		4	......	Intoxication	Fine.
2		2	......	Assault	Fine.
1		1	......	Assault	Penitentiary.
4		4	......	Trespass on cars	Fine.
1		1	......	Disorderly person	Adjudged.
1		1	......	Petit larceny	Penitentiary.
3	September	3	......	Vagrancy	Adjudged.
1		1	......	Disorderly person	Fine.
2		2	......	Disorderly person	Adjudged.
4		4	......	Intoxication	Jail.
1		1	......	Intoxication	Penitentiary.
1		1	......	Trespass on cars	Penitentiary.
6	October	6	......	Vagrancy	Adjudged.
2		2	......	Tramp	Adjudged.
1		1	......	Intoxication	Jail.
2		2	......	Petit larceny	Fine.
2		2	......	Assault	Penitentiary.

COUNTY OF JEFFERSON.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
4	November	4	......	Petit larceny	Jail.
1		1	......	Petit larceny	Penitentiary.
9		9	......	Intoxication	Fine.
1		1	......	Intoxication	Penitentiary.
1		1	......	Assault	Fine.
1		1	......	Assault	Jail.
2		2	......	Breach of the peace	Jail.
2		2	......	Vagrancy	Adjudged.
3	December	2	1	Vagrant	Adjudged.
1		1	......	Assault	Fine.
1		1	......	Assault	Jail.
1		1	......	Constructive larceny	Penitentiary.
1		1	......	Petit larceny	Jail
1		1	......	Petit larceny	Penitentiary.
1		1	......	Disorderly person	Jail.
1		1	......	Intoxication	Jail.
1		1	......	Intoxication	Fine.

Table K. — County of Jefferson —(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
4	1884. December	4		Intoxication	Penitentiary.
2	1885. January	2		Intoxication	Penitentiary.
1		1		Intoxication	Jail.
1		1		Petit larceny.	Penitentiary.
2	February	2		Assault	Jail.
1		1		Disorderly person	Adjudged.
1		1		Constructive larceny	Jail.
2		1	1	Vagrant	Adjudged.
1		1		Intoxication	Fine.
6		6		Intoxication	Jail.
2		2		Intoxication	Penitentiary.
5	March	5		Intoxication	Penitentiary.
7		7		Intoxication	Jail.
1		1		Intoxication	Fine.
2		2		Assault	Jail
2		2		Assault	Penitentiary.
1		1		Assault	Fine.
1		1		Petit larceny.	Penitentiary.
1		1		Petit larceny.	Jail.
1		1		Petit larceny	House of refuge.
1		1		Vagrancy	Penitentiary.
1	April	1		Petit larceny	Fine.
7		7		Intoxication	Penitentiary.
5		5		Intoxication	Jail.
1		1		Vagrancy	Adjudged.
3		3		Assault	Jail.
1		1		Assault	Fine.
1	May	1		Vagrancy	Adjudged.
2		2		Intoxication	Penitentiary.
7		7		Intoxication	Jail.
1		1		Defrauding hotel keeper	Jail.
1		1		Assault	Jail.
3		3		Assault	Penitentiary.
7	June	7		Disorderly person	Penitentiary.
21		21		Disorderly person	Jail.
2		2		Assault	Jail.
1		1		Assault	Fine.
1		1		Breach of the peace	Jail.
4		4		Breach of the peace	Fine.
2	July	1	1	Assault.	Jail.
1		1		Assault	Fine.
1		1		Assault	Penitentiary.
1		1		Vagrancy	Adjudged.
1		1		Disorderly person	Penitentiary.
1		1		Disorderly person	Jail.
4		4		Intoxication.	Fine.
5		5		Intoxication	Penitentiary.
2		2		Intoxication	Jail.
1		1		Indecent exposure	Jail.
22	August	21	1	Intoxication	Jail.
8		8		Intoxication	Penitentiary.
4		4		Intoxication.	Fine.
3		3		Assault	Fine.
2		2		Assault	Penitentiary.
3	September	3		Intoxication	Penitentiary.
17		17		Intoxication	Jail.
1		1		Petit larceny.	Jail.
1		1		Petit larceny	Fine.
1		1		Assault	Fine.
1	October	1		Disorderly person	Adjudged.
3		3		Assault	Penitentiary.
3		3		Assault	Jail.
2		2		Petit larceny.	Penitentiary.
4		4		Intoxication	Penitentiary.
14		14		Intoxication	Jail.
1		1		Vagrancy	Adjudged.

Table K. — (Continued).

COUNTY OF KINGS.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November.	1	....	Assault	House of refuge.
73		72	1	Assault	Penitentiary.
18		16	2	Assault	Suspended.
60		58	2	Assault	Fine.
4		4	......	Assault	Jail.
8		8	....	Assault	City prison.
2		1	1	Assault	Bonded.
4		2	2	Petit larceny	House of refuge
107		104	3	Petit larceny	Penitentiary.
21		20	1	Petit larceny	Fine.
4		3	1	Petit larceny	Jail.
9		9	.....	Petit larceny	Suspended.
19		19	......	Petit larceny	City prison.
5		5	..	Petit larceny	House of refuge.
191		170	21	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Penitentiary.
4		4	......	Vagrancy	Jail.
2		2	......	Sell'g oleomarg'e for butter.	Fine.
23		23	....	Disorderly person	Adjudged.
24		24	..	Disorderly person	Fine.
825		712	113	Intoxication	Fine.
222		207	15	Intoxication	Suspended.
3		3	....	Indecent exposure	Penitentiary.
3		3	....	Malicious mischief	Penitentiary.
15		15	.....	Malicious mischief	Fine.
7		7	......	Malicious mischief	Suspended.
35		34	1	Affray	Fine.
89		86	3	Violating city ordinance	Fine.
168		165	3	Violating city ordinance	Suspended.
8		....	8	Violating Sunday law	Suspended.
29		29	......	Cruelty to animals	Fine.
5		5	......	Cruelty to children	Fine.
10		10	....	Violating Sunday ordinance	Fine.
51		51	.....	Violating Sunday ordinance	Suspended.
1		1	....	Violating excise law	Fine.
4		4	.....	Truancy	Jail.
2		2	......	Habitual drunkard	Inebriate home.
6		6	......	Misdemeanor	Fine.
10		10	....	Violating city ordinance	Fine.
1		1	......	Cruelty to children	Penitentiary.
1		1	.....	Violating sanitary law	Fine.
5		5	.....	Dealing in impure milk	Fine.
1		1	......	Trespass on cars	Fine.
1		1	....	Rescuing prisoner	Fine.
1		1	.....	Bastardy	Bonded.
2		2	..	Contempt of court	Jail.
1		1	.....	Habitual drunkard	Adjudged.
3		3	....	Habitual drunkard	Inebriate home.
2		2	......	Threats	Bonded.
7		7	......	Truancy	Truant home.
20		20	..	Violating health law	Suspended.
921	December.	785	136	Intoxication	Fine.
186		152	34	Intoxication	Suspended.
5		5	......	Intoxication	Penitentiary.
1		1	......	Cruelty to children	Penitentiary.
3		3	......	Cruelty to children	Fine.
1		1	......	Disorderly house	Penitentiary.
23		23	......	Affray	Fine.
1		1	.....	Fraudulent assignment	City prison and fine.
5		5	....	Misdemeanor	Fine.
5		5	......	Cruelty to animals	Fine.
1		1	......	Cruelty to animals	Penitentiary.
4		4	.....	Selling impure milk	Fine.
3		3	......	Indecent exposure	Penitentiary.
74		74	......	Violating city ordinance	Fine.
2		2	.....	Violating city ordinance	Penitentiary
8		8	.....	Violating city ordinance	Jail.
5		5	......	Violating health ordinance.	Suspended.
68		68	......	Assault	Penitentiary.
12		12	......	Assault	City prison.

Table K.—County of Kings—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
47	1884. December..	46	1	Assault	Fine.
1		1	....	Assault	Bonded.
1		1	..	Assault	House of refuge.
4		4	....	Assault	Jail.
4		4	.....	Assault	Suspended.
159		159	.....	Petit larceny	Penitentiary.
21		21	....	Petit larceny	City prison.
7		7	.....	Petit larceny	House of refuge.
14		9	5	Petit larceny	Suspended.
6		6	....	Petit larceny	Fine.
81		72	9	Vagrancy	Adjudged.
2		2	.....	Habitual drunkard	Inebriate home.
1		1	.....	Peddling without license	Suspended.
95		95	......	Violating health ordinance.	Suspended.
76		76	.....	Violating health ordinance.	Fine.
2		2	.....	Sell'g oleomarg'e for butter.	Fine.
1		1	.....	Contempt of court	Jail.
1		1	......	Threats	Bonded.
1		1	.....	Threats	Suspended.
4		4	.....	Truancy	Truant home.
3		3	......	Truancy	House of refuge.
4		4	....	Malicious mischief	Fine.
1		1	...	Malicious mischief	Penitentiary.
5	1885. January....	5	....	Malicious mischief	Penitentiary.
2		1	1	Malicious mischief	Suspended.
11		11	.....	Malicious mischief	Fine.
2		2	.....	Cruelty to children	Penitentiary.
2		2	.....	Cruelty to children	Fine.
4		4	......	Selling impure milk	Fine.
7		7	.....	Misdemeanor	Fine.
10		10	.....	Violating excise law	Fine.
2		2	.....	Violating excise law	Penitentiary.
24		24	....	Cruelty to animals	Fine.
1		1	....	Cruelty to animals	City prison.
5		5	.....	Disorderly person	Penitentiary.
2		2	....	Disorderly person	City prison.
2		2	....	Disorderly person	Fine.
2		2	....	Disorderly person	House of refuge.
1		1	......	Disorderly person	Adjudged.
160		155	5	Violating city ordinance	Fine.
32		25	7	Violating city ordinance	Suspended.
8		8	......	Assault	Jail.
54		49	5	Assault	Fine.
37		37	......	Assault	Penitentiary.
9		9	......	Assault	City prison.
3		2	1	Assault	Suspended.
1		1	....	Assault	House of refuge
7		7	......	Petit larceny	Jail.
8		8	......	Petit larceny	House of refuge.
9		8	1	Petit larceny	Fine.
19		16	3	Petit larceny	City prison.
155		149	6	Petit larceny	Penitentiary.
3		3	......	Petit larceny	Suspended.
985		845	140	Intoxication	Fine.
25		25	......	Intoxication	Suspended.
27		27	......	Violating city ordinance	Fine.
6		6	......	Violating city ordinance	Suspended
13		13	......	Violating health ordinance.	Fine.
6		6	....	Violating health ordinance	Suspended.
31		31	.....	Affray	Fine.
2		......	2	Affray	Penitentiary.
2		2	....	Affray	Suspended.
1		1	.....	Destitute	Commissioner of charities.
1		1	....	Threats	Bonded.
112		102	10	Vagrancy	Adjudged.
1		1	....	Habitual drunkard	Inebriate home.
2		2	....	Truancy	Truant home.
964	February ..	831	133	Intoxication	Fine.
87		70	17	Intoxication	Suspended.

Table K. — County of Kings — (Continued).

Number of convictions.	When convicted	Males.	Females.	Offense.	Sentence.
	1885.				
9	February ..	9	......	Cruelty to animals....	Fine.
1		1	......	Malicious mischief	Jail.
3		3	......	Malicious mischief...... ...	Fine.
2		2	......	Malicious mischief	Penitentiary.
4		4	......	Malicious mischief...	Suspended.
1		1	.. .	Interfering with an officer .	Penitentiary.
215		145	70	Vagrancy	Adjudged.
198		198	..	Violating city ordinance ..	Fine.
3		.....	3	Violating city ordinance .	Fine.
103		101	2	Violating city ordinance....	Suspended.
1		1	. ...	Violating city ordinance....	City prison.
7		6	1	Petit larceny	Jail.
37		28	9	Petit larceny.......	Penitentiary.
16		14	2	Petit larceny	Fine.
20		19	1	Petit larceny	City prison.
1		.... .	1	Petit larceny	Industrial school.
6		6	.. ..	Petit larceny	House of refuge.
8		8	.. ...	Petit larceny....	Suspended.
2		2	. ..	Petit larceny.	Public nuisance.
41		39	2	Assault	Fine.
3		3	.....	Assault	Jail.
99		98	1	Assault	Penitentiary.
5		5	. ..	Assault	City prison.
6		5	1	Assault	Suspended.
29		29	. ..	Affray..	Fine.
2		2	.....	Affray	Suspended.
2		2	......	Gambling....	Suspended.
1		1	......	Indecent exposure..	Penitentiary
1		1	.....	Disorderly person....... ..	City prison.
1		1	.. ...	Disorderly person......	Adjudged.
3		3	. ...	Cruelty to children	Penitentiary.
1		1	... .	Cruelty to children...	Fine.
8		8	.. ..	Misdemeanor...............	Fine.
1		1	.. ...	Bastardy.............	Bonded.
4		4	......	Threats	Bonded.
1		1	......	Habitual drunkard....	Inebriate home.
1		1	. ...	Violating excise	Fine.
5		5	......	Disorderly conduct	Suspended.
2		2	.....	Truancy	Truant home.
87	March	64	23	Intoxication	Suspended.
621		538	83	Intoxication.	Fine.
1		1	....	Indecent exposure.........	Penitentiary.
1		1	... ..	Libel	Penitentiary.
2		2	... ..	Cruelty to children.	Fine.
3		3	..	Cruelty to children..	Penitentiary.
1		1	.. ..	Cruelty to animals..... ...	Penitentiary.
1		1	.....	Cruelty to animals	Suspended.
2		2	. .	Cruelty to animals	City prison.
3		3	.....	Selling impure milk	Fine.
14		14	.....	Misdemeanor....	Fine.
86		86	......	Violating city ordinance...	Fine.
1		1	......	Violating city ordinance	Penitentiary.
2		2	.....	Violating city ordinance....	City prison.
30		30	.....	Violating city ordinance....	Suspended.
38		37	1	Assault	Penitentiary.
3		3	. ..	Assault	City prison.
19		19	.. ..	Assault	Fine.
5		5	.....	Assault	Suspended.
119		119	. ..	Petit larceny	Penitentiary.
15		. ...	15	Petit larceny	Penitentiary.
21		21	.. ..	Petit larceny	City prison.
4		4	....	Petit larceny	Fine.
18		18	....	Petit larceny	House of refuge.
2		2	.....	Petit larceny	Suspended.
79		51	28	Petit larceny	Adjudged.
4		4	. ..	Affray	Suspended.
10		10	.. ..	Affray	Fine.
8		8	.. ...	Truancy	Truant home.
1		1	......	Violating excise law	Fine.
3		3	.....	Habitual drunkard.........	Inebriate home.

Table K. — *County of Kings* — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	March		2	Disorderly house	Penitentiary.
1	April		1	Disorderly house	Fine.
1		1		Habitual drunkard	Penitentiary.
12		12		Habitual drunkard	Inebriate home.
1		1		Selling impure milk	Fine.
8		8		Petit larceny	Jail.
15		13	2	Petit larceny	City prison.
126		117	9	Petit larceny	Penitentiary.
9		9		Petit larceny	House of refuge.
15		15		Petit larceny	Fine.
11		9	2	Petit larceny	Suspended.
17		17		Misdemeanor	Fine.
7		7		Cruelty to children	Penitentiary.
1		1		Cruelty to children	Suspended.
3		3		Cruelty to children	City prison.
1		1		Cruelty to children	Fine.
23		23		Cruelty to animals	Fine.
1		1		Cruelty to animals	Penitentiary.
38		36	2	Assault	Penitentiary.
6		6		Assault	City prison.
54		53	1	Assault	Fine.
6		6		Assault	Suspended.
7		4	3	Assault	Jail.
296		296		Violating city ordinance	Fine.
1		1		Violating city ordinance	City prison.
75		71	4	Violating city ordinance	Suspended.
1		1		Violating city ordinance	Jail.
97		82	15	Vagrancy	Adjudged.
136		136		Intoxication	Suspended.
918		786	132	Intoxication	Fine.
4		2	2	Disorderly person	Adjudged.
1		1		Disorderly person	Suspended.
3		1	2	Keeping disorderly house	Penitentiary.
1		1		Disorderly conduct	Fine.
1		1		Affray	Suspended.
21		21		Affray	Fine.
2		2		Malicious mischief	Suspended.
1		1		Malicious mischief	Penitentiary.
1		1		Malicious mischief	Jail.
3		3		Malicious mischief	Fine.
1		1		Breach of the peace	Suspended.
1		1		Breach of the peace	Fine.
2		2		Threats	Suspended.
1		1		Threats	Bonded.
19		19		Truancy	Truant home.
2		2		Truancy	Suspended.
3		3		Sell'g oleomarg'e for butter.	Fine.
1		1		Violation excise law	Penitentiary.
1		1		Indecent exposure	Penitentiary.
1106	May	902	204	Intoxication	Fine.
231		201	30	Intoxication	Suspended.
1		1		Sell'g oleomarg'e for butter.	Penitentiary.
174		151	23	Violating city ordinance	Suspended.
413		359	54	Violating city ordinance	Fine.
16		16		Violating city ordinance	Jail.
34		34		Affray	Fine
4		4		Affray	Suspended.
5		5		Assault	City prison.
97		88	9	Assault	Fine.
3		3		Assault	Suspended.
39		36	3	Assault	Penitentiary.
2		1	1	Assault	Bonded.
2		2		Assault	Jail.
119		84	35	Vagrancy	Adjudged.
2		2		Indecent exposure	Fine.
1		1		Indecent exposure	Penitentiary.
3		2	1	Disorderly conduct	Fine.
4		3	1	Disorderly conduct	Suspended.
5		4	1	Cruelty to children	Fine.
3		3		Cruelty to children	Penitentiary.

Table K. — County of Kings — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	May	1	.....	Rescuing a prisoner	Fine.
2		2	.....	Threats	Bonded.
6		6	.....	Violating excise law	Suspended.
2		1	1	Violating public decency	Fine.
1		1	.....	Violating public decency	Suspended.
1		.....	1	Violating public decency	Bonded.
16		16	.....	Misdemeanor	Fine.
1		1	.....	Misdemeanor	City prison.
1		.....	1	Habitual drunkard	House of Good Shepherd.
1		.....	1	Habitual drunkard	Inebriate home.
6		6	.....	Habitual drunkard	Inebriate home.
1		1	.....	Habitual drunkard	Jail.
15		15	.....	Disorderly person	Adjudged.
1		1	.....	Disorderly person	Penitentiary.
20		19	1	Cruelty to animals	Fine.
25		25	.....	Petit larceny	City prison.
3		3	.....	Petit larceny	Jail.
6		6	.....	Petit larceny	Suspended.
14		13	1	Petit larceny	Fine
74		73	1	Petit larceny	Penitentiary.
18		18	.....	Petit larceny	House of refuge.
7		7	.....	Malicious mischief.	Fine.
1		1	.....	Maliciousmischief	Suspended.
1		1	.....	Malicious mischief	Penitentiary.
20		20	.....	Truancy	Truant home.
1		1	.....	Abandonment	Fine.
2		2	.....	Keeping opium den	Fine.
2		.....	2	Keeping opium den	Penitentiary.
1		1	.....	Violating excise law	Fine.
585	June	461	124	Intoxication	Fine.
28		24	4	Intoxication	Suspended.
7		7	.....	Intoxication	Jail.
446		421	25	Violating city ordinance	Fine.
2		2	.....	Violating city ordinance	City prison.
9		7	2	Violating city ordinance	Suspended.
25		25	.....	Violating city ordinance	House of refuge.
9		8	1	Assault	Jail.
8		5	3	Assault	Suspended.
5		3	2	Assault	Bonded.
77		64	13	Assault	Fine.
8		7	1	Assault	City prison.
35		34	1	Assault	Penitentiary
1		.....	1	Assault	House of refuge.
50		49	1	Affray	Fine.
3		2	1	Petit larceny	Jail.
5		5	.....	Petit larceny	Suspended.
23		23	.....	Petit larceny	City prison.
12		11	1	Petit larceny	Fine.
88		78	10	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Protectorate.
10		10	.....	Petit larceny	House of refuge.
29		29	.....	Truancy	Truant home.
1		1	.....	Truancy	Jail.
5		5	.....	Malicious mischief	Fine.
2		1	1	Malicious mischief	Penitentiary.
1		1	.....	Malicious mischief	Suspended.
25		25	.....	Cruelty to animals	Fine
1		1	.....	Cruelty to animals	Penitentiary.
1		1	.....	Indecent exposure	Jail.
1		1	.....	Indecent exposure	Bonded.
127		89	38	Vagrancy	Adjudged.
6		6	.....	Disorderly person	Adjudged.
8		8	.....	Disorderly person	Fine.
2		.....	2	Disorderly person	Suspended.
6		3	3	Disorderly conduct	Fine.
2		2	.....	Indecent exposure	Penitentiary.
1		1	.....	Trespass on cars	Fine.
2		2	.....	Selling impure milk	Fine.
15		15	.....	Misdemeanor	Fine.
2		2	.....	Misdemeanor	Penitentiary.

Table K. — County of Kings — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
18	June	18	......	Cruelty to children	Fine.
1		......	1	Cruelty to children	City prison.
1		1	......	Cruelty to children	Penitentiary.
1		1	......	Threats	Jail.
9		7	2	Habitual drunkard	Inebriate home.
2		2	......	Malicious injury to pr'perty	Fine.
1		1	......	Violating excise law	Fine.
1		......	1	Keeping disorderly house	Fine.
3		1	2	Keeping disorderly house	Penitentiary.
121	July	87	34	Vagrancy	Adjudged.
928		786	142	Intoxication	Fine.
10		10	......	Intoxication	Suspended.
57		43	14	Assault	Fine.
5		3	2	Assault	Jail.
11		10	1	Assault	Penitentiary.
12		12	......	Assault	Suspended.
9		1	8	Assault	Bonded.
38		37	1	Affray	Fine.
2		2	......	Affray	Suspended.
228		211	17	Violating city ordinance	Fine.
53		53	......	Violating city ordinance	Suspended.
1		1	......	Violating city ordinance	House of refuge.
3		3	......	Truancy	Truant home.
4		4	......	Cruelty to animals	Fine.
1		1	......	Indecent exposure	Penitentiary.
2		2	......	Threats	Bonded.
2		1	1	Habitual drunkard	Suspended.
5		5	......	Habitual drunkard	Inebriate home.
4		3	1	Malicious mischief	Suspended.
3		3	......	Malicious mischief	Fine.
5		5	......	Disorderly person	Adjudged.
3		2	1	Disorderly person	Fine.
6		6	......	Petit larceny	Fine.
17		17	......	Petit larceny	Penitentiary
2		1	1	Petit larceny	Suspended.
8		7	1	Petit larceny	Jail.
2		2	......	Petit larceny	House of refuge.
2		2	......	Violating excise law	Fine.
4		4	......	Misdemeanor	Fine.
2		2	......	Disorderly child	Fine.
1,207	August	1,077	130	Intoxication	Fine.
18		18	......	Intoxication	Suspended.
357		336	21	Violating city ordinance	Fine.
1		1	......	Violating city ordinance	Bonded.
103		100	3	Violating city ordinance	Suspended.
71		71	......	Affray	Fine.
2		2	......	Affray	Suspended.
1		1	......	Affray	Jail.
22		22	......	Cruelty to animals	Fine.
4		4	......	Cruelty to animals	Suspended.
1		1	......	Malicious mischief	Suspended.
12		10	2	Malicious mischief	Fine.
1		1	......	Malicious mischief	Bonded.
1		1	......	Malicious mischief	Penitentiary
9		8	1	Petit larceny	Fine.
12		11	1	Petit larceny	Penitentiary.
10		8	2	Petit larceny	Jail.
3		2	1	Petit larceny	House of refuge.
13		12	1	Petit larceny	Suspended.
121		91	30	Assault	Fine.
11		7	4	Assault	Bonded.
19		17	2	Assault	Jail.
19		14	5	Assault	Suspended.
18		18	......	Assault	Penitentiary.
51		31	20	Vagrancy	Adjudged.
4		4	......	Disorderly person	Adjudged.
1		1	......	Disorderly person	Fine.
2		1	1	Disorderly conduct	Fine.
2		2	......	Malicious injury to pr'perty	Fine.
1		1	......	Breach of the peace	Fine.

Table K.—County of Kings—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
7	August. ...	4	3	Threats	Bonded.
1		1	....	Threats	Suspended.
18		14	4	Habitual drunkard	Inebriate home.
1		1	......	Idle and vicious	Suspended.
1		1	......	Idle and vicious	House of refuge.
1		1	......	Attempt to rescue prisoner.	Penitentiary.
1		1	......	Trespass	Fine.
2		2	....	Bastardy	Bonded.
1		1	.. ..	Cruelty to children	Fine.
1		.. ..	1	Cruelty to children	Suspended.
5		5	......	Indecent exposure	Penitentiary.
1,015	September.	941	174	Intoxication	Fine.
23		23	.....	Intoxication	Suspended.
1		1	......	Violating excise law	Fine.
1		1	......	Abandonment	Suspended.
1		1	......	Misdemeanor	Fine.
1		1	.....	Disorderly conduct	Fine.
119		62	57	Vagrancy	Adjudged.
9		6	3	Habitual drunkard	Inebriate home.
2		2	......	Outraging public decency	Bonded.
1		... ..	1	Outraging public decency	Fine.
13		13	......	Cruelty to animals	Fine.
3		3	......	Cruelty to animals	Suspended.
1		1	......	Malicious mischief	Fine
2		2	.....	Malicious mischief	Jail.
3		3	.....	Malicious mischief	Suspended.
1		1	......	Malicious mischief	Penitentiary.
8		4	4	Threats	Bonded.
47		47	....	Affray	Fine
1		1	......	Affray	Suspended.
1		1	.. ...	Affray	Jail.
11		11	.. ..	Truancy	Truant home.
4		4	. ....	Petit larceny	Suspended.
3		3	......	Petit larceny	House of refuge
4		4	......	Petit larceny	Fine.
15		11	4	Petit larceny	Jail.
14		11	3	Petit larceny	Penitentiary.
12		4	8	Assault	Bonded.
11		10	1	Assault	Penitentiary.
8		8	......	Assault	Jail.
60		60	......	Assault	Fine.
14		9	5	Assault	Suspended.
2		2	......	Violating city ordinance	Bonded.
2		2	....	Violating city ordinance	Penitentiary.
108		98	10	Violating city ordinance	Suspended.
291		252	39	Violating city ordinance	Fine.
657	October....	557	100	Intoxication	Fine.
5		5	......	Intoxication	Suspended.
3		2	1	Habitual drunkard	Inebriate home.
2		... ..	2	Habitual drunkard	Penitentiary.
4		4	......	Violating excise law	Fine.
18		4	14	Disorderly person	Adjudged.
4		4	......	Disorderly person	Fine.
4		3	1	Disorderly person	Suspended.
1		1	.....	Threats	Bonded.
2		2	.....	Malicious injury to property	Fine.
2		....	2	Idle and vicious	House of refuge.
1		1	......	Adulterating food	Fine.
5		5	......	Malicious mischief	Fine.
1		1	.....	Malicious mischief	Jail.
18		18	......	Affray	Fine.
3		3	.... .	Affray	Suspended.
1		1	......	Affray	Jail.
4		4	.....	Cruelty to animals	Fine.
1		1	.... .	Cruelty to children	Penitentiary.
14		12	2	Petit larceny	Penitentiary.
1		1	......	Petit larceny	House of refuge.
4		4	......	Petit larceny	Jail.
3		3	... ..	Petit larceny	Fine.
2		2	......	Petit larceny	Suspended.

Table K. — County of Kings — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
8	October	8	....	Assault	Penitentiary.
4		4	....	Assault	Jail.
8		8	....	Assault	Suspended.
55		39	16	Assault	Fine.
2		2	.	Assault	Bonded.
99		56	43	Vagrancy	Adjudged.
136		129	7	Violating city ordinance	Fine.
58		54	4	Violating city ordinance	Suspended.
				COUNTY OF MADISON.	
	1884.				
11	November	11	....	Intoxication	Jail.
2		2	....	Intoxication	Penitentiary.
1		1	....	Vagrancy	Adjudged.
5		5	....	Vagrancy	Jail.
1		1	....	Vagrancy	Penitentiary.
1		1	....	Petit larceny	House of refuge.
1		1	..	Petit larceny	Penitentiary.
4		4	....	Assault	Jail.
2	December	2	....	Assault	Jail.
1		1	....	Assault	Fine.
8		7	1	Intoxication	Jail.
1		1	....	Intoxication	Penitentiary.
1		1	....	Disorderly person	Jail.
5		5	....	Vagrancy	Penitentiary.
6		6	....	Vagrancy	Jail.
1		1	....	Misdemeanor	Jail.
2		2	....	Petit larceny	Penitentiary.
	1885.				
8	January	8	....	Intoxication	Jail.
7		7	....	Intoxication	Fine.
3		3	....	Intoxication	Penitentiary.
1		1	....	Defrauding hotel keeper	Jail.
4		4	....	Vagrancy	Penitentiary.
2		2	....	Vagrancy	Adjudged.
1	February	1	....	Intoxication	Fine.
5		5	....	Intoxication	Penitentiary.
4		4	....	Vagrancy	Jail.
1		1	....	Vagrancy	Penitentiary.
1		1	....	Vagrancy	Adjudged.
1		1	....	Petit larceny	Jail.
1		....	1	Petit larceny	House of refuge.
1		1	....	Assault	Jail.
6	March	6	....	Intoxication	Fine.
1		1	....	Intoxication	Penitentiary.
2		2	....	Intoxication	Jail.
7		7	....	Vagrancy	Penitentiary.
3		3	....	Vagrancy	Jail.
5		5	....	Vagrancy	Adjudged.
1		1	....	Petit larceny	Penitentiary.
1		1	....	Cruelty to animals	Penitentiary.
2	April	2	....	Vagrancy	Jail.
3		3	....	Vagrancy	Penitentiary
1		1	....	Vagrancy	Adjudged.
6		6	....	Intoxication	Fine.
2	May	2	....	Intoxication	Jail.
1		1	....	Petit larceny	Jail.
1		1	....	Vagrancy	Penitentiary.
1		1	....	Vagrancy	Adjudged.
1		1	....	Assault	Jail.
7	June	7	....	Intoxication	Fine.
2		2	....	Intoxication	Jail.
1		....	1	Disorderly person	Fine.
1		1	....	Cruelty to animals	Fine.
1		1	....	Disorderly conduct	Jail.
1		1	....	Resisting an officer	Fine.
1		1	....	Petit larceny	Fine.
8	July	8	....	Intoxication	Jail.
5		5	....	Intoxication	Penitentiary.
6		6	....	Intoxication	Fine.

Table K. — County of Madison — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	July	2		Assault	Penitentiary.
4		4		Petit larceny.	Penitentiary
1		1		Vagrancy	Jail.
1	August.	1		Petit larceny	Penitentiary.
7		7		Tramp	Penitentiary.
5		5		Assault	Jail.
1		1		Assault	House of refuge.
6		6		Vagrancy	Adjudged.
1		1		Vagrancy	Penitentiary.
7		6	1	Intoxication	Jail.
7	September.	7		Assault	Jail.
3		3		Assault	Fine.
1		1		Assault	Penitentiary.
1		1		Trespass on cars	Penitentiary.
4		4		Intoxication	Suspended.
34		34		Intoxication	Jail.
7		7		Intoxication	Fine.
34		34		Intoxication	Penitentiary.
5		5		Tramp	Penitentiary.
1		1		Malicious mischief	Jail.
5		5		Petit larceny	Penitentiary.
3		3		Petit larceny	Jail.
1		1		Trespass	Jail.
5		5		Vagrancy	Penitentiary.
2		2		Vagrancy	Jail.
1		1		Cruelty to animals	Jail.
1	October	1		Petit larceny	Jail.
1		1		Petit larceny.	House of refuge.
1		1		Petit larceny	Penitentiary.
4		4		Vagrancy	Adjudged.
1		1		Misdemeanor	Jail.
				COUNTY OF MONROE.	
	1884.				
2	November.	1	1	Intoxication	Fine.
10		10		Petit larceny	Penitentiary.
1		1		Petit larceny.	Fine.
2		2		Vagrancy	House of refuge.
7		7		Vagrancy	Penitentiary.
1		1		Vagrancy	Adjudged.
7		7		Assault	Penitentiary.
1		1		Tramp	Penitentiary.
2		2		Disorderly person	Adjudged.
2		2		Violating excise	Fine.
1	December.	1		Assault	Fine.
4		4		Assault	Penitentiary.
19		19		Assault	Penitentiary.
4		4		Vagrancy	Penitentiary.
1		1		Disorderly person	Adjudged.
	1885.				
3	January	3		Malicious trespass	Penitentiary.
17		17		Petit larceny	Penitentiary.
2		2		Petit larceny	House of refuge.
1		1		Vagrancy	House of refuge.
8		8		Vagrancy	Penitentiary
1		1		Vagrancy	Adjudged.
1		1		Vagrancy	Jail.
5		5		Assault	Penitentiary.
1		1		Intoxication	Fine.
1		1		Disorderly person	Adjudged.
1	February	1		Intoxication	Penitentiary.
11		11		Vagrancy	Adjudged.
6		6		Vagrancy	Jail.
5		5		Vagrancy	Penitentiary.
7		7		Assault	Penitentiary.
8		8		Assault	Penitentiary.
1		1		Cruelty to animals	Penitentiary.
1	March	1		Cruelty to animals	Fine.
1		1		Assault	Fine.
5		5		Assault	Penitentiary.

Table K. — County of Monroe — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	March.....	2	.....	Vagrancy	Penitentiary.
2		2	.....	Petit larceny	House of refuge.
6		6	.....	Petit larceny	Penitentiary.
1		1	.....	Intoxication	Fine.
1		1	.....	Disorderly person	Adjudged.
1	April.......	1	.....	Disorderly person	Penitentiary.
1		1	.....	Disorderly person	Adjudged.
5		5	.....	Vagrancy	Penitentiary.
2		2	.....	Vagrancy	Adjudged.
6		5	1	Assault	Penitentiary.
1		1	.....	Cruelty to children	House of refuge.
7		6	1	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	House of refuge.
2		2	.....	Intoxication	Penitentiary.
20	May	20	.....	Assault	Penitentiary.
3		3	.....	Assault	Fine.
1		1	.....	Assault	Bail.
1		1	.....	Vagrancy	Adjudged.
9		9	.....	Vagrancy	Penitentiary.
3		3	.....	Vagrancy	House of refuge.
21		19	2	Petit larceny	Penitentiary.
3		3	.....	Petit larceny	House of refuge.
1		1	.....	Violating excise law	Penitentiary.
1		1	.....	Gambling	Penitentiary.
1		1	.....	Cruelty to animals	Penitentiary.
1		1	.....	Intoxication	Penitentiary.
2	June	2	.....	Intoxication	Penitentiary.
1		1	.....	Intoxication	Fine.
4		4	.....	Violating game law	Penitentiary.
19		18	1	Assault	Penitentiary.
1		1	.....	Assault	Jail.
12		11	1	Petit larceny	Penitentiary.
2		2	.....	Petit larceny	House of refuge.
1		1	.....	Disorderly person	Fine.
1		.....	1	Disorderly person	Penitentiary.
2		.....	2	Keeping house of ill-fame	Penitentiary.
14		14	.....	Vagrancy	Penitentiary.
1		1	.....	Violating excise law	Penitentiary.
24	July	24	.....	Petit larceny	Penitentiary.
4		4	.....	Petit larceny	House of refuge.
1		1	.....	Malicious mischief	Penitentiary.
19		19	.....	Assault	Penitentiary.
2		2	.....	Assault	Fine.
2		2	.....	Cruelty to animals	House of refuge.
2		2	.....	Trespass on cars	Penitentiary.
2		2	.....	Intoxication	Fine.
1		1	.....	Intoxication	Penitentiary.
3		3	.....	Tramp	Penitentiary.
2		2	.....	Vagrancy	House of refuge.
1		1	.....	Disorderly person	Adjudged.
20	August.....	19	1	Petit larceny	Penitentiary.
4		4	.....	Petit larceny	House of refuge.
23		23	.....	Assault	Penitentiary.
1		1	.....	Assault	Fine.
4		4	.....	Tramp	Penitentiary.
1		1	.....	Cruelty to animals	Penitentiary.
1		1	.....	Disorderly person	Penitentiary.
1		1	.....	Disorderly person	Adjudged.
4		4	.....	Vagrancy	Penitentiary.
1		1	.....	Vagrancy	House of refuge.
1		1	.....	Vagrancy	Poor-house.
1		1	.....	Violating excise	Penitentiary.
2		2	.....	Violating city ordinance	Penitentiary.
6		6	.....	Intoxication	Fine.
2		2	.....	Intoxication	Penitentiary.
1		1	.....	Misdemeanor	Fine.
1		1	.....	Malicious mischief	Penitentiary.
2	September .	2	.....	Petit larceny	Fine.
14		14	.....	Petit larceny	Penitentiary.
2		2	.....	Petit larceny	House of refuge.

Table K.—County of Monroe—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
5	1885. September.	5	......	Vagrancy	Fine.
8		8	......	Vagrancy	Penitentiary.
1		1	......	Violating excise law	Jail.
11		11	......	Tramp	Penitentiary.
1		1	......	Disorderly person	Adjudged.
30		30	......	Assault	Penitentiary.
1		1	......	Malicious mischief	Penitentiary.
3		3	......	Intoxication	Penitentiary.
1		1	......	Bastardy	Fine.
3	October....	3	......	Disorderly person	Adjudged.
8		8	......	Petit larceny	Penitentiary.
1		1	......	Vagrancy	House of refuge.
3		3	......	Vagrancy	Penitentiary.
13		13	......	Tramp	Penitentiary.
16		16	......	Assault	Penitentiary.
1		1	......	Cruelty to animals	Penitentiary.
1		1	......	Intoxication	Penitentiary.

COUNTY OF MONTGOMERY.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
4	1884. November..	4	......	Intoxication	Fine.
8		8	......	Vagrancy	Adjudged.
3		3	......	Vagrancy	Jail.
2		2	......	Tramp	Adjudged.
1		1	......	Tramp	Penitentiary.
3		3	......	Misdemeanor	Fine.
3		3	......	Misdemeanor	Jail.
2		2	......	Petit larceny	Penitentiary.
1		1	......	Petit larceny	House of refuge.
5		5	......	Misdemeanor	Jail.
5	December .	5	......	Intoxication	Fine.
2		2	......	Intoxication	Jail.
8		8	......	Vagrancy	Adjudged.
9		9	......	Vagrancy	Jail.
5		5	......	Misdemeanor	Fine.
1		1	......	Petit larceny	Jail.
2		2	......	Petit larceny	Penitentiary.
1		1	......	Petit larceny	Fine.
1		1	......	Assault	Fine.
1	1885. January....	1	......	Trespass on cars	Fine.
7		7	......	Trespass on cars	Jail.
9		9	......	Intoxication	Fine.
6		6	......	Intoxication	Jail.
18		18	......	Vagrancy	Adjudged.
1		1	......	Petit larceny	House of refuge.
3		3	......	Petit larceny	Penitentiary.
1		......	1	Petit larceny	Jail.
1		1	......	Assault	Penitentiary.
1		1	......	Assault	Fine.
11	February ..	11	......	Intoxication	Fine.
34		34	......	Vagrancy	Adjudged.
4		4	......	Trespass on cars	Jail.
5		5	......	Tramp	Penitentiary.
5		4	1	Assault	Penitentiary.
1		1	......	Petit larceny	Fine.
2		2	......	Petit larceny	Penitentiary.
1		1	......	Disorderly conduct	Penitentiary
1		1	......	Disorderly conduct	Penitentiary.
5	March......	5	......	Intoxication	Fine.
36		36	......	Vagrancy	Adjudged.
1		1	......	Vagrancy	Poor-house.
2		2	......	Vagrancy	Jail.
5		5	......	Trespass on cars	Fine.
1		1	......	Trespass on cars	Jail.
2		2	......	Violating penal code	Fine.
1		1	......	Violating penal code	Jail.
1		1	......	Tramp	Jail.
2		2	......	Tramp	Penitentiary.
1		1	......	Malicious mischief	Penitentiary.

Table K. — *County of Montgomery* — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
7	April	7		Vagrancy	Adjudged.
25		25		Vagrancy	Jail.
13		13		Intoxication	Fine.
1		1		Intoxication	Jail.
1		1		Disorderly person	Adjudged.
2		2		Disorderly person	Jail.
2		2		Disorderly person	Fine.
5		5		Trespass on cars	Jail.
2		1	1	Petit larceny	Fine.
1		1		Petit larceny	Penitentiary
1		1		Assault	Fine.
9	May	9		Vagrancy	Adjudged.
16		16		Vagrancy	Jail.
5		5		Intoxication	Fine.
4		4		Intoxication	Jail.
2		2		Disorderly person	Jail.
2		2		Disorderly person	Fine.
1		1		Assault	Fine.
1		1		Trespass on cars	Jail.
1		1		Trespass on cars	Fine.
1		1		Malicious mischief	Jail.
6	June	6		Intoxication	Fine.
2		2		Intoxication	Jail.
2		2		Disorderly person	Jail.
3		3		Violating city ordinance	Fine.
1		1		Trespass on cars	Jail.
1		1		Assault	Jail.
1		1		Assault	Fine.
1	July	1		Vagrancy	Adjudged.
1		1		Keeping disorderly house	Penitentiary.
1		1		Malicious mischief	Jail.
4		1		Intoxication	Fine.
1		4		Intoxication	Penitentiary
2		1		Assault	Jail.
1		2		Assault	Penitentiary.
3		1		Disorderly person	Jail.
2		3		Disorderly person	Penitentiary.
1			1	Petit larceny	Fine.
13	August	12	1	Intoxication	Fine.
1		1		Intoxication	Jail.
1		1		Vagrancy	Adjudged.
1		1		Petit larceny	Jail.
3		3		Violating penal code	Jail.
4		4		Trespass on cars	Jail.
1		1		Petit larceny	Fine.
1		1		Keeping disorderly house	Penitentiary.
1		1		Assault	Penitentiary.
1		1		Assault	Fine.
16	September	16		Intoxication	Fine.
3		3		Intoxication	Penitentiary.
1		1		Intoxication	House of refuge.
1		1		Tramp	Adjudged.
1		1		Tramp	Penitentiary.
1		1		Assault	Fine.
1		1		Assault	Penitentiary.
1		1		Keeping house of ill-fame	Fine.
2		2		Vagrancy	Adjudged.
10		10		Vagrancy	Penitentiary.
1	October	1		Disorderly person	Adjudged.
3		3		Disorderly person	Jail.
7		7		Intoxication	Fine.
2		2		Disorderly conduct	Jail.
4		4		Petit larceny	Penitentiary.
1		1		Assault	Penitentiary.
2		2		Tramp	Penitentiary.
1		1		Chicken thief	Penitentiary.

Table K. — (Continued).

COUNTY OF NIAGARA.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
3	November .	3	......	Assault	Work-house.
22		22	......	Intoxication	Fine.
1		1	......	Intoxication	Penitentiary.
1		1	......	Intoxication	Jail.
4		3	1	Vagrancy	Adjudged.
2		2	......	Petit larceny	Work-house.
1		1	......	Petit larceny	Penitentiary.
1		1	......	Petit larceny	Fine.
1		1	......	Disorderly person	Penitentiary.
1	December..	1	......	Assault	Jail.
16		16	......	Intoxication	Fine.
1		1	......	Vagrancy	Poor-house.
1		1	......	Petit larceny	Work-house.
1		1	......	Petit larceny	Jail.
	1885.				
5	January....	5	......	Intoxication	Fine.
2		2	......	Assault	Work-house.
1		1	......	Assault	Fine.
9		9	......	Vagrancy	Adjudged.
1		1	......	Vagrancy	Jail.
1		1	......	Disorderly person	Jail.
1		1	......	Tramp	Work-house.
15	February.	15	......	Intoxication	Fine.
3		3	......	Intoxication	Jail.
11		11	......	Disorderly person	Fine.
14		14	......	Disorderly person	Jail.
1		1	......	Disorderly person	Adjudged.
1		1	......	Disorderly person	Work-house.
27	March.....	27	......	Intoxication	Fine.
3		2	1	Malicious mischief	Jail.
1		1	......	Malicious mischief	Fine.
12		12	......	Vagrancy	Adjudged.
5		5	......	Vagrancy	Jail.
8	April.......	8	......	Intoxication	Fine.
2		......	2	Intoxication	Fine.
10		10	......	Vagrancy	Adjudged.
8		8	......	Vagrancy	Jail.
3		3	......	Assault	Work-house.
10		10	......	Assault	Fine.
7	May	7	......	Intoxication	Fine.
3		3	......	Assault	Fine.
1		1	......	Assault	Bailed.
3		3	......	Assault	Jail.
2		......	2	Vagrancy	Adjudged.
4		4	......	Petit larceny	House of refuge.
2		2	......	Petit larceny	Jail.
1		1	......	Breach of the peace	Jail.
8	June	8	......	Vagrancy	Adjudged.
1		......	1	Disorderly person	Jail.
1		......	1	Disorderly person	Fine.
1		1	......	Vagrancy	Poor-house.
1		1	......	Violating excise	Fine.
1		1	......	Affray	Fine.
1		1	......	Indecent exposure	Fine.
1		1	......	Malicious mischief	Fine.
58	July........	58	......	Intoxication	Fine.
1		1	......	Assault	Penitentiary
1		1	......	Assault	Jail.
5		5	......	Petit larceny	Penitentiary.
1		1	......	Petit larceny	Suspended.
1		1	......	Petit larceny	Jail.
12	August.....	10	2	Intoxication	Fine.
9		7	2	Intoxication	Jail.
1		1	......	Intoxication	Penitentiary.
9		9	......	Assault	Fine.
2		2	......	Assault	Work-house.
5		5	......	Petit larceny	Fine.
1		1	......	Petit larceny	Work-house.
24	September.	24	......	Intoxication	Fine.
1		1	......	Petit larceny	House of refuge.

Table K. — *County of Niagara* — (Continued).

Number of convictions.	When convicted	Males.	Females.	Offense.	Sentence.
	1885.				
10	September.	10	.....	Vagrancy	Jail.
13		13	.....	Vagrancy	Adjudged.
2		2	.....	Vagrancy	Work-house.
3		3	.....	Tramp	Adjudged.
1		1	.....	Tramp	Work-house.
9	October ..	9	.....	Intoxication	Fine.
10		10	.....	Vagrancy	Jail.
19		19	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Fine.
3		3	.....	Disorderly person	Jail.
4		4	.....	Disorderly person	Fine
1		1	.....	Disorderly person	Work-house.

COUNTY OF ONEIDA.

Number of convictions.	When convicted	Males.	Females.	Offense.	Sentence.
	1884.				
34	November..	33	1	Intoxication	Fine.
6		6	.....	Intoxication	Jail.
1		1	.....	Misdemeanor	Protectorate.
5		5	.....	Misdemeanor	Fine.
1		1	.....	Misdemeanor	Jail.
3		3	.....	Petit larceny	Penitentiary.
4		4	.....	Petit larceny	Jail.
2		2	.....	Misdemeanor	Penitentiary.
1		1	.....	Misdemeanor	House of refuge
1		1	.....	Vagrancy	Penitentiary.
1		.....	1	Vagrancy	Poor-house.
3		3	.....	Violating city ordinance	Jail.
2		2	.....	Assault	Jail.
1		1	.....	Assault	Fine.
1		1	.....	Tramp	Penitentiary.
4		4	.....	Intoxication	Penitentiary.
1		1	.....	Disorderly person	Penitentiary.
28	December .	28	.....	Intoxication	Fine.
6		5	1	Intoxication	Jail.
3		3	.....	Intoxication	Penitentiary.
1		1	.....	Misdemeanor	House of refuge
8		8	.....	Misdemeanor	Penitentiary.
3		3	.....	Misdemeanor	Jail.
1		1	.....	Misdemeanor	Fine.
1		1	.....	Assault	Penitentiary.
6		6	.....	Assault	Jail.
4		4	.....	Assault	Fine.
2		2	.....	Violating city ordinance	Fine.
1		1	.....	Violating city ordinance	Jail.
1		1	.....	Malicious mischief	Jail.
1		1	.....	Malicious mischief	Fine.
1		1	.....	Vagrancy	House of refuge.
1		1	.....	Vagrancy	Poor-house.
2		2	.....	Vagrancy	Jail.
1		1	.....	Cruelty to animals	Suspended.
2		2	.....	Petit larceny	Jail.
2		2	.....	Petit larceny	Penitentiary.
	1885.				
3	January ...	3	.....	Vagrancy	Penitentiary
4		4	.....	Vagrancy	Poor-house.
10		10	.....	Intoxication	Fine.
3		3	.....	Intoxication	Penitentiary.
2		2	.....	Intoxication	Jail.
3		3	.....	Assault	Fine.
4		4	.....	Assault	Jail.
4		4	.....	Assault	Penitentiary.
1		1	.....	Misdemeanor	Penitentiary.
1		1	.....	Petit larceny	Penitentiary.
18	February ..	18	.....	Intoxication	Fine.
2		2	.....	Intoxication	Jail.
6		3	3	Violating city ordinance	Fine.
4		4	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Penitentiary.
1		1	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Poor-house.

Table K. — County of Oneida —(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	February ..	1	.. ..	Vagrancy	Protectorate.
1		.. ..	1	Assault	Fine.
2		2	......	Misdemeanor	Penitentiary.
1		1	.....	Misdemeanor	Fine.
1		1	.. ..	Misdemeanor	Jail.
2		1	1	Disorderly house	Penitentiary.
3		3	.. .	Disorderly person	Fine.
1		1	......	Killing wild deer	Fine.
3		3	......	Tramp	Penitentiary.
1	March	... ..	1	Misdemeanor	Fine.
33		33	.....	Intoxication	Fine.
1		1	.. ..	Intoxication	Poor-house.
2		2	....	Assault	Penitentiary.
1		1	......	Assault	Fine.
2		2	......	Assault	Jail.
4		4	......	Vagrancy	Jail.
1		1	.. ...	Vagrancy	Penitentiary.
1		1	. ...	Truancy	House of refuge.
1		1	.....	Disorderly person	Jail.
3	April	1	2	Vagrancy	Poor-house.
3		3	......	Vagrancy	Penitentiary.
1		1	... ..	Vagrancy	Asylum.
1		1	... ..	Vagrancy	Jail.
5		3	2	Intoxication	Penitentiary.
7		5	2	Intoxication	Jail.
28		27	1	Intoxication	Fine.
1		1	.....	Petit larceny	Penitentiary.
8		2	6	Violating city ordinance	Fine.
1		1	... ..	Violating city ordinance	Jail.
2		2	...	Misdemeanor	Jail.
3		3	....	Misdemeanor	Penitentiary.
1		1	......	Misdemeanor	Fine.
1		1	... ..	Assault	Jail.
1	May	1	......	Intoxication	Penitentiary.
41		38	3	Intoxication	Fine.
2		1	1	Assault	Penitentiary.
4		3	1	Vagrancy	Poor-house.
2		2	.....	Vagrancy	Penitentiary.
3		3	.....	Vagrancy	Jail.
1		1	.....	Truancy	Asylum
1		1	.. ...	Petit larceny	House of refuge.
1		1	..	Violating city ordinance	Jail.
2		... ..	2	Violating city ordinance	Fine.
1		1	......	Disorderly person	Adjudged.
41	June	35	6	Intoxication	Fine.
9		9	.....	Intoxication	Jail.
8		7	1	Intoxication	Penitentiary.
1		.....	1	Intoxication	Poor-house.
1		1	.... .	Malicious mischief	Jail.
1		1	......	Disorderly person	Jail.
1		1	.. ...	Misdemeanor	Jail.
3		3	.. ..	Assault	Jail.
2		2	...	Assault	Penitentiary.
4		3	1	Assault	Fine.
1		1	.....	Petit larceny	Jail
1		1	......	Petit larceny	Penitentiary.
1		1	.. ..	Petit larceny	House of refuge.
2		2	......	Vagrancy	Poor-house.
1		1	......	Vagrancy	Adjudged.
1		1	... ..	Vagrancy	Jail.
3		3	... .	Vagrancy	House of refuge.
7		7	... ..	Vagrancy	Penitentiary.
1		1	....	Trespass on cars	Jail.
2		2	....	Truancy	Protectorate.
1		1	......	Violating city ordinance	Fine.
3	July	3	.....	Gambling	Jail.
5		3	2	Violating city ordinance	Jail.
1		1	......	Violating city ordinance	Fine.
9		9	.....	Intoxication	Jail.
46		40	6	Intoxication	Fine.

Table K. — County of Oneida — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
20	July	19	1	Intoxication	Penitentiary.
2		1	1	Vagrancy	Jail.
1		1	......	Vagrancy	Fine.
4		4	......	Vagrancy	Penitentiary.
1		1	......	Vagrancy	Poor-house.
9		9	......	Assault	Jail.
2		2	......	Assault	Penitentiary.
4		4	......	Assault	Fine.
2		2	......	Petit larceny	Penitentiary.
1		1	......	Petit larceny	House of refuge.
2		......	2	Petit larceny	Jail.
1		1	......	Truancy	Protectorate.
1		1	......	Disorderly conduct	Penitentiary.
1		1	......	Disorderly person	Adjudged.
1		......	1	Disorderly person	Jail.
1		......	1	Intimidating public officer	Fine.
1	August	1	......	False pretense	Penitentiary.
33		30	3	Intoxication	Fine.
4		4	......	Intoxication	Jail.
1		1	......	Intoxication	Poor-house.
3		3	......	Intoxication	Penitentiary.
3		2	1	Vagrancy	Jail.
5		5	......	Vagrancy	Adjudged.
19		19	..	Vagrancy	Penitentiary.
1		1	......	Vagrancy	Poor-house.
5		5	......	Tramp	Penitentiary.
1		1	......	Tramp	House of refuge.
2		2	......	Assault	Fine.
4		4	......	Assault	Jail.
2		2	......	Assault	Penitentiary.
7		7	......	Petit larceny	House of refuge.
2		2	......	Petit larceny	Jail.
1	September	1	......	Petit larceny	Protectorate.
3		3	......	Petit larceny	Fine.
5		5	......	Petit larceny	Penitentiary.
112		107	5	Intoxication	Fine.
2		2	......	Intoxication	Jail.
3		3	......	Intoxication	Penitentiary.
2		2	......	Misdemeanor	Jail.
3		3	......	Violating city ordinance	Jail.
1		1	......	Violating city ordinance	Penitentiary.
23		23	......	Vagrancy	Penitentiary.
6		6	......	Vagrancy	Jail
12		12	......	Assault	Penitentiary.
3		2	1	Assault	Jail.
1		1	......	Disorderly person	Penitentiary.

COUNTY OF ONONDAGA.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November	1	......	Malicious mischief	Penitentiary.
1		1	......	Truancy	House of refuge.
1		1	......	Assault	Penitentiary.
26		26	......	Vagrancy	Adjudged.
23		23	......	Vagrancy	Penitentiary.
1		1	......	Vagrancy	Fine.
1		1	......	Trespass on cars	Fine.
13		12	1	Breach of the peace	Penitentiary.
3		3	......	Breach of the peace	Fine.
53		52	1	Intoxication	Penitentiary
3		3	......	Affray	Fine.
2		2	......	Affray	Penitentiary.
1		1	......	Violating city ordinance	Penitentiary.
1		1	......	Violating city ordinance	Fine.
1		1	......	Violating excise law	Fine.
14		6	8	Prostitution	Penitentiary.
4		4	......	Inmate disorderly house	Penitentiary.
6		6	......	Petit larceny	Penitentiary.
2		2	......	Petit larceny	Fine.
1		1	......	Indecent exposure	Penitentiary.
56	December	56	......	Intoxication	Penitentiary.

Table K. — County of Onondaga — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
5	1884. December .	4	1	Intoxication	Fine.
39		39	.....	Vagrancy	Adjudged.
40		40	.....	Vagrancy	Penitentiary.
2		2	.....	Violating excise law	Fine.
2		2	....	Violating excise law	Penitentiary.
3		....	3	Prostitution	Penitentiary.
17		17	.....	Breach of the peace	Fine.
3		3	.....	Breach of the peace	Penitentiary.
6		6	.....	Assault	Penitentiary.
8		8	.....	Assault	Fine.
10		10	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Fine.
1		1	.....	Robbery	Jail.
1		1	.....	Resisting an officer	Fine.
2		2	.....	Trespass on cars	Fine.
1		1	.....	Inmate disorderly house	Penitentiary.
1		1	.....	Disorderly conduct	Fine.
12	1885. January ...	.....	12	Prostitution	Penitentiary
7		7	.....	Vagrancy	Adjudged.
8		8	.....	Vagrancy	Penitentiary.
3		3	.....	Disorderly person	Adjudged.
2		2	.....	Breach of the peace	Penitentiary.
5		5	.....	Breach of the peace	Fine.
39		39	.....	Intoxication	Penitentiary.
2		2	.....	Intoxication	Fine.
3		3	.....	Assault	Fine.
3		3	.....	Assault	Penitentiary.
1		1	.....	Petit larceny	Fine.
10		10	.....	Petit larceny	Penitentiary.
1		1	.....	Violating city ordinance	Fine.
1		1	.....	Violating city ordinance	Penitentiary.
3		3	.....	Trespass on cars	Penitentiary.
1		1	.....	Violating excise law	Penitentiary.
1		1	.....	Inmate disorderly house	Penitentiary.
6	February...	.....	6	Prostitution	Penitentiary.
4		4	.....	Assault	Penitentiary.
8		7	1	Assault	Fine.
33		33	.....	Intoxication	Penitentiary.
21		18	3	Intoxication	Fine.
6		5	1	Petit larceny	Penitentiary.
2		1	1	Petit larceny	Fine.
1		1	.....	Petit larceny	House of refuge.
6		6	.....	Vagrancy	Adjudged.
4		4	.....	Vagrancy	Penitentiary.
4		3	1	Breach of the peace	Fine.
3		3	.....	Breach of the peace	Penitentiary.
2		2	.....	Tramp	Penitentiary.
2		2	.....	Violating city ordinance	Fine.
2		2	.....	Disorderly conduct	Penitentiary.
14	March......	....	14	Prostitution	Penitentiary.
5		5	.....	Assault	Penitentiary.
1		1	.....	Assault	Fine.
4		4	.....	Disorderly person	Fine.
3		3	.....	Breach of the peace	Fine.
6		6	.....	Breach of the peace	Penitentiary.
2		2	.....	Indecent exposure	Fine.
12		12	.....	Vagrancy	Adjudged.
12		12	.....	Vagrancy	Penitentiary.
41		39	2	Intoxication	Penitentiary.
21		21	.....	Petit larceny	Penitentiary.
2		2	.....	Petit larceny	Fine.
2		2	.....	Petit larceny	House of refuge.
2		2	.....	Keeping gambling house	Fine.
2		2	.....	Keeping disorderly house	Fine.
2		2	.....	Keeping disorderly house	Penitentiary.
1		1	.....	Violating excise law	Fine.
1		1	.....	Violating city ordinance	Fine.
14	April	....	14	Prostitution	Penitentiary.
1		.....	1	Prostitution	Fine.

Table K. — County of Onondaga — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	April	2	......	Assault	Penitentiary.
4		4	......	Assault	Fine.
5		5	......	Breach of the peace	Penitentiary.
5		5	......	Breach of the peace	Fine.
8		8	......	Vagrancy	Adjudged.
8		8	......	Vagrancy	Penitentiary.
62		60	2	Intoxication	Penitentiary.
2		2	......	Cruelty to animals	Penitentiary.
1		1	......	Petit larceny	House of refuge.
8		8	......	Petit larceny	Penitentiary.
4		4	......	Petit larceny	Fine.
1		1	......	Defrauding hotel keeper	Fine.
1		1	......	Indecent exposure	Penitentiary.
14		14	......	Trespass on cars	Fine.
2		2	......	Violating city ordinance	Fine.
1		1	......	Disorderly child	Shelter for homeless women
7	May	7	......	Assault	Fine.
3		3	......	Assault	Penitentiary
1		1	......	Disorderly person	Fine
2		2	......	Disorderly person	Adjudged.
10		10	......	Vagrancy	Adjudged.
12		12	......	Vagrancy	Penitentiary.
1		1	......	Vagrancy	Poor-house.
1		1	......	Robbery from person	Held for grand jury.
5		5	......	Breach of the peace	Penitentiary.
23		22	1	Breach of the peace	Fine.
4		4	......	Petit larceny	Penitentiary.
1		......	1	Petit larceny	Fine.
65		56	9	Intoxication	Penitentiary.
10		10	......	Violating city ordinance	Fine.
1		1	......	Violating excise law	Fine.
1		1	......	Trespass on cars	Fine.
9		......	9	Prostitution	Penitentiary.
1		......	1	Prostitution	Fine.
1	June	1	......	Breach of the peace	Fine.
4		4	......	Breach of the peace	Penitentiary.
9		9	......	Assault	Fine.
4		3	1	Assault	Penitentiary.
2		......	2	Prostitution.	House of shelter.
1		......	1	Misdemeanor	Fine.
8		......	8	Prostitution.	Penitentiary.
1		1	......	Petit larceny	House of refuge.
1		1	......	Petit larceny	Jail.
9		9	......	Petit larceny	Penitentiary.
3		3	......	Intoxication	Fine.
51		50	1	Intoxication	Penitentiary.
8		8	......	Affray	Fine.
1		1	......	Indecent language	Fine.
12		12	......	Vagrancy	Adjudged.
10		10	......	Vagrancy	Penitentiary.
1		1	......	Vagrancy	Poor-house.
6		6	......	Violating city ordinance	Fine.
1		1	......	Trespass on cars	Fine.
1		1	......	Disorderly person	Penitentiary.
1		1	......	Interfering with an officer	Fine.
1	July	1	......	Cruelty to animals	Penitentiary.
1		1	......	Disorderly conduct	Fine.
1		......	1	Disorderly conduct	Poor-house.
1		......	1	Disorderly person.	House of refuge.
1		1	......	Petit larceny	House of refuge.
6		5	1	Petit larceny	Penitentiary.
11		10	1	Violating city ordinance	Fine.
3		3	......	Violating city ordinance	Penitentiary.
13		12	1	Breach of the peace	Fine.
3		3	......	Breach of the peace	Penitentiary.
4		3	1	Vagrancy	Adjudged.
10		9	1	Vagrancy	Penitentiary.
10		8	2	Assault.	Fine.
8		8	......	Assault	Penitentiary.
2		2	......	Assault	Jail.

Table K. — County of Onondaga — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
92	1885. July	79	13	Intoxication	Penitentiary.
2		2		Intoxication	Fine.
1			1	Keeping disorderly house	Penitentiary.
10	August		10	Prostitution	Penitentiary.
6		1	5	Disorderly person	Penitentiary.
2		2		Disorderly person	Adjudged.
16		16		Assault	Fine.
6		6		Assault	Penitentiary.
53		52	1	Intoxication	Fine.
60		54	6	Intoxication	Penitentiary.
20		20		Vagrancy	Penitentiary.
17		16	1	Breach of the peace	Fine.
11		5	6	Breach of the peace	Penitentiary.
1		1		Petit larceny	Fine.
12		12		Petit larceny	Penitentiary.
1		1		Petit larceny	House of refuge.
6		6		Violating city ordinance	Fine.
4		4		Violating city ordinance	Penitentiary.
1		1		Indecent exposure	Penitentiary.
7	September		7	Keeping disorderly house	Fine.
1		1		Vagrancy	Penitentiary.
8		8		Vagrancy	Adjudged.
52		52		Intoxication	Fine.
1		1		Cruelty to animals	Fine.
4		4		Assault	Penitentiary.
5		5		Assault	Fine.
2		2		Disorderly conduct	Penitentiary.
1		1		Disorderly person	Adjudged.
1			1	Disorderly person	Asylum.
2		2		Disorderly person	Fine.
32		32		Disorderly person	Penitentiary.
4		4		Breach of the peace	Penitentiary.
14		14		Breach of the peace	Fine.
1		1		Violation excise law	Fine.
8		8		Petit larceny	Penitentiary.
3		3		Trespass on cars	Penitentiary.
2	October	2		Cruelty to animals	Fine.
2		2		Maintaining nuisance	Fine.
130		120	10	Intoxication	Fine.
7		7		Intoxication	Penitentiary.
9		9		Vagrancy	Adjudged.
17		17		Vagrancy	Penitentiary.
6		4	2	Assault	Fine.
5		5		Assault	Penitentiary.
1		1		Disorderly person	Adjudged.
1		1		Disorderly person	Penitentiary.
1		1		Disorderly person	Fine.
1		1		Petit larceny	Jail.
11		10	1	Petit larceny	Penitentiary.
3		3		Petit larceny	Fine.
3		3		Malicious mischief	Penitentiary.
15		11	4	Breach of the peace	Penitentiary.
26		21	5	Breach of the peace	Fine.
11		11		Tramp	Penitentiary.
1		1		Violation excise law	Fine.
1			1	Prostitution	Penitentiary.
1		1		Assaulting an officer	Fine.
1		1		Disorderly conduct	Penitentiary.
3		3		Trespass on cars	Penitentiary.
				COUNTY OF ONTARIO.	
10	1884. November	10		Vagrancy	Adjudged.
4		4		Vagrancy	Jail.
8		8		Disorderly person	Fine.
2		2		Disorderly person	Penitentiary.
2		2		Disorderly person	Jail.
3		3		Assault	Fine.
1		1		Assault	Jail.
1		1		Assault	Penitentiary.

Table K. — County of Ontario — (Continued).

Number of convictions.	When convicted	Males.	Females.	Offense.	Sentence.
	1884.				
1	November	1	.....	Trespass on cars	Jail.
1		1	.....	Petit larceny	Penitentiary.
2		2	.....	Petit larceny	Fine.
1		1	.....	Petit larceny	Jail.
1		1	.....	Intoxication	Suspended.
1		1	.....	Intoxication	Jail.
32	December	32	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Jail.
1		1	.....	Assault	Penitentiary.
2		2	.....	Assault	Jail.
2		2	.....	Assault	Fine.
4		4	.....	Breach of the peace	Jail.
1		1	.....	Violating excise	Fine.
1		1	.....	Keeping gambling house	Fine.
	1885.				
14	January	14	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	House of refuge.
4		4	.....	Intoxication	Fine.
1		1	.....	Intoxication	Penitentiary.
1		.....	1	Intoxication	Penitentiary.
3		.....	3	Keeping house ill-fame	Fine.
1		1	.....	Assault	Fine.
1		1	.....	Assault	Jail.
1		1	.....	Disorderly person	Penitentiary.
1		1	.....	Disorderly person	Fine.
1		1	.....	Petit larceny	House of refuge.
27	February	27	.....	Vagrancy	Adjudged.
2		2	.....	Vagrancy	Jail.
2		2	.....	Assault	Jail.
2		2	.....	Assault	Fine.
1		1	.....	Disorderly person	Fine.
9		9	.....	Violating excise	Fine.
4	March	4	.....	Breach of the peace	Jail.
15		15	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Jail.
6		6	.....	Disorderly person	Adjudged.
2		2	.....	Disorderly person	Jail.
2		2	.....	Disorderly person	Fine
1		1	.....	Assault	Jail.
1		1	.....	Intoxication	Fine.
3		3	.....	Petit larceny	Jail.
1		1	.....	Resisting an officer	Fine.
1		1	.....	Violating excise law	Fine.
1		1	.....	Cruelty to animals	Fine.
1		1	.....	Sabbath breaking	Fine.
5	April	5	.....	Breach of the peace	Jail.
1		1	.....	Violating excise	Fine.
1		1	.....	Affray	Fine
1		1	.....	Assault	Jail.
1		1	.....	Disorderly person	Jail.
9		9	.....	Disorderly person	Fine.
2		2	.....	Petit larceny	Jail.
3		2	1	Vagrancy	Adjudged.
2		2	.....	Intoxication	Penitentiary.
1		1	.....	Intoxication	Jail.
1		1	.....	Intoxication	Fine.
1		1	.....	Cruelty to animals	Fine.
1	May	1	.....	Disorderly person	Fine.
2		2	.....	Intoxication	Fine.
2		2	.....	Vagrancy	Adjudged.
4	June	4	.....	Disorderly person	Fine.
6		6	.....	Disorderly person	Jail.
1		1	.....	Disorderly person	Penitentiary.
2		2	.....	Assault	Suspended.
2		2	.....	Assault	Jail.
3		3	.....	Tramp	Penitentiary.
1		1	.....	Keeping house ill-fame	Jail.
1		1	.....	Vagrancy	Adjudged.
1	July	1	.....	Trespass on cars	Fine.
1		1	.....	Vagrancy	Adjudged.

Table K. — County of Ontario—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
3	July	3		Intoxication	Fine.
3		3		Assault	Fine.
1	August		1	Breach of the peace.	Jail.
1		1		Assault	Adjudged.
2		2		Assault	Fine.
2		2		Assault	Penitentiary.
1		1		Assault	House of refuge.
13		13		Disorderly person	Fine.
1		1		Disorderly person	Adjudged.
3		3		Disorderly person	Penitentiary.
1		1		Petit larceny	Penitentiary.
2		2		Petit larceny	House of refuge
1		1		Vagrancy	Penitentiary.
2		2		Vagrancy	Adjudged.
1		1		Vagrancy	House of refuge.
1		1		Indecent exposure	Jail.
2		2		Intoxication	Fine.
14	September	14		Disorderly person	Fine.
3		3		Disorderly person	Penitentiary.
2		2		Tramp	Penitentiary.
7		7		Assault	Fine.
1		1		Petit larceny	Fine.
1		1		Petit larceny	Penitentiary.
2		2		Vagrancy	Adjudged.
2	October	2		Assault	Fine.
2		2		Vagrancy	Adjudged.
4		4		Intoxication	Fine.
1		1		Intoxication	Jail.
1		1		Breach of the peace	Fine.
1		1		Tramp	Jail.

COUNTY OF ORANGE.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November	1		Intoxication	Jail.
1		1		Intoxication	Fine.
1		1		Trespass on cars	Adjudged.
1		1		Trespass on cars	Jail.
1		1		Selling impure milk	Fine.
3		3		Vagrancy	Jail.
2		2		Vagrancy	Poor-house.
1		1		Petit larceny	Jail.
1		1		Petit larceny	Fine.
1		1		Defrauding hotel keeper	Jail.
2	December	2		Vagrancy	Adjudged.
1		1		Vagrancy	Poor-house.
2		2		Intoxication	Fine.
6		6		Intoxication	Jail.
2		2		Assault	Penitentiary.
3		3		Selling impure milk	Fine.
1		1		Violating excise law	Fine.
	1885.				
11	January	11		Petit larceny	Jail.
1		1		Petit larceny	House of refuge.
17		17		Intoxication	Fine.
1		1		Vagrancy	Poor-house.
4		4		Vagrancy	Adjudged.
1		1		Vagrancy	House of refuge.
1		1		Selling impure milk.	Fine.
1		1		Carrying concealed weapons	Fine.
3	February	2	1	Vagrancy	Adjudged.
1		1		Vagrancy	Poor-house.
1		1		Intoxication	Fine.
2		2		Assault	Jail.
1		1		Petit larceny	Jail.
1		1		Petit larceny	Penitentiary.
1			1	Petit larceny	House of refuge.
1			1	Disorderly conduct	House of refuge.
1		1		Cruelty to animals	Penitentiary.
1		1		Malicious mischief	Jail.
2	March	2		Intoxication	Fine.

Table K.— County of Orange — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	March.....	2	.....	Vagrancy	Jail.
1		.....	1	Vagrancy	Adjudged.
2		2	.....	Assault	Jail.
2		1	1	Petit larceny	Jail.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Disorderly person	Jail.
4		3	1	Violating excise	Fine.
2	April........	2	.....	Intoxication	Fine.
3		3	.....	Assault	Jail.
1		1	.....	Disorderly person	Adjudged.
1		1	.....	Petit larceny	Penitentiary.
2		2	.....	Petit larceny	Fine.
4		4	.....	Vagrancy	Penitentiary.
2		1	1	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Poor-house.
5	May........	5	.....	Intoxication	Fine.
2		1	1	Assault	Fine
1		1	.....	Assault	Penitentiary
1		1	.....	Disorderly person	Adjudged.
1		1	.....	Disorderly person	House of refuge.
1		1	.....	Vagrancy	Adjudged.
1		1	.....	Disorderly conduct	House of refuge.
18	June.......	18	.....	Intoxication	Fine.
1		1	.....	Intoxication	Jail.
1		1	.....	Vagrancy	Jail.
1		1	.....	Trespass on cars	Fine.
1		1	.....	Defrauding hotel keeper	Penitentiary.
4		4	.....	Cruelty to animals	Fine.
1		1	.....	Cruelty to animals	Jail.
1		1	.....	Trespass on cars	Fine.
1		1	.....	Trespass on cars	Jail.
1		1	.....	Trespass on cars	Jail.
2		2	.....	Assault	Jail.
1		1	.....	Assault	House of refuge.
2		2	.....	Assault	Penitentiary
2		2	.....	Breach of the peace	Fine.
1		1	.....	Malicious mischief	Jail.
1		1	.....	Petit larceny	Jail.
2	July........	2	.....	Disorderly person	Jail.
1		1	.....	Disorderly person	Penitentiary.
8		8	.....	Intoxication	Fine.
1		1	.....	Arson	Jail.
2		2	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	House of refuge.
1		1	.....	Trespass on cars	Jail
1		1	.....	Petit larceny	Jail.
1		1	.....	Malicious mischief	Jail.
2		2	.....	Assault	Penitentiary.
1		1	.....	Assault	Fine.
1	August.....	1	.....	Malicious trespass	Fine.
4		4	.....	Assault	Jail.
4		4	.....	Assault	Fine.
2		2	.....	Assault	Penitentiary.
9		9	.....	Intoxication	Fine.
1		1	.....	Vagrancy	Adjudged.
1		1	.....	Disorderly person	Jail and fine.
3		3	.....	Petit larceny	Jail.
2		2	.....	Tramp	Penitentiary.
7		7	.....	Violating excise law	Fine.
8	September.	8	.....	Intoxication	Fine.
1		1	.....	Intoxication	Jail.
1		1	.....	Malicious trespass	Fine.
2		2	.....	Vagrancy	Adjudged
1		1	.....	Vagrancy	Penitentiary.
1		1	.....	Vagrancy	Fine.
1		1	.....	Vagrancy	Jail.
2		1	1	Assault	Jail.
2		2	.....	Assault	Fine.
1		1	.....	Assault	Penitentiary.

Table K.—County of Orange—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
2	1885. September.	2	.....	Disorderly person	Adjudged.
1		1	.....	Indecent language	Fine.
1		1	.....	Indecent language	Jail.
1		1	.....	Contempt of court	Fine.
1		1	.....	Petit larceny	Fine.
3	October....	2	1	Petit larceny	House of refuge.
1		1	.....	Petit larceny	Penitentiary.
2		2	.....	Petit larceny	Jail.
2		2	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Adjudged.
1		1	.....	Disorderly person	Adjudged.
1		1	.....	Disorderly person	Jail.
4		4	.....	Intoxication	Fine.
3		3	.....	Breach of the peace	Jail.
1		1	.....	Assault	Suspended.
1		1	.....	Assault	Fine.
1		1	.....	Assault	Penitentiary.

COUNTY OF ORLEANS.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
1	1884. November..	1	.....	Intoxication	Fine.
4		4	.....	Intoxication	Jail.
1		1	.....	Vagrancy	Jail.
3		3	.....	Vagrancy	Penitentiary.
19		19	.....	Vagrancy	Adjudged.
1	December..	1	.....	Indecent exposure	Jail.
7		7	.....	Intoxication	Jail.
1		1	.....	Intoxication	Fine.
4		4	.....	Assault	Penitentiary.
27		27	.....	Vagrancy	Adjudged.
2		2	.....	Tramp	Penitentiary.
3	1885. January....	3	.....	Intoxication	Fine.
13		13	.....	Assault	Jail.
23		23	.....	Vagrancy	Adjudged.
5	February...	5	.....	Petit larceny	Jail.
27		27	.....	Vagrancy	Adjudged.
6		6	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Penitentiary.
3	March......	3	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Jail.
20		20	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Penitentiary.
1	April......	1	.....	Indecent exposure	Penitentiary.
8		8	.....	Disorderly person	Adjudged.
1		1	.....	Intoxication	Jail.
1		1	.....	Petit larceny	Penitentiary.
86		86	.....	Vagrancy	Adjudged.
6	May......	6	.....	Violating game law	Jail.
38		38	.....	Intoxication	Jail.
1		1	.....	Petit larceny	Penitentiary.
13		13	.....	Vagrancy	Adjudged.
4		4	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Penitentiary.
8	June......	8	.....	Intoxication	Jail.
2		2	.....	Intoxication	Fine.
1		1	.....	Vagrancy	Adjudged.
2		2	.....	Vagrancy	Jail.
1	July......	1	.....	Disorderly person	Adjudged.
20		20	.....	Intoxication	Jail.
22		22	.....	Petit larceny	Penitentiary.
2		2	.....	Assault	Jail
9		9	.....	Vagrancy	Adjudged.
9		9	.....	Vagrancy	Jail.
35	August.....	35	.....	Intoxication	Jail.
4		4	.....	Vagrancy	Adjudged.
7	September..	7	.....	Intoxication	Jail.
1		1	.....	Intoxication	Fine.
1		1	.....	Petit larceny	Jail.
1		1	.....	Assault	Penitentiary.

Table K.—County of Orleans — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	September.	2	.....	Vagrancy	Penitentiary.
1	October ...	1	.....	Violating excise.	Jail.
1		1	.....	Indec't exposure of person.	Penitentiary.
3		3	.....	Intoxication	Fine.
5		5	.....	Intoxication.	Jail.
2		1	1	Petit larceny	Jail.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Assault	Jail.
1		1	.....	Vagrancy	Adjudged.
				COUNTY OF OSWEGO.	
	1885.				
1	October	1	.....	Petit larceny	Penitentiary.
5		5	.....	Petit larceny	Jail.
7		5	2	Indecent language	Fine.
5		5	.....	Intoxication	Jail.
5		5	.....	Intoxication	Penitentiary.
24		24	.....	Intoxication	Fine.
3		.....	3	Intoxication.	Fine.
30		30	.....	Assault	Fine.
3		3	.....	Assault	Penitentiary.
6		6	.....	Assault	Jail.
2		2	.....	Disorderly person	Fine.
1		1	.....	Vagrancy	Jail.
2		2	.....	Vagrancy	Adjudged.
1		1	.....	Tramp	Penitentiary.
3		3	.....	Violating excise.	Jail
2		1	1	Keeping disorderly house	Fine.
1		1	.....	Interfering with an officer.	Fine.
1		.....	1	Prostitution	Fine.
1		.....	1	Prostitution	Jail.
				COUNTY OF OTSEGO.	
	1884.				
1	November..	1	.....	Intoxication.	Jail.
3		3	.....	Intoxication.	Fine.
1		1	.....	Disorderly person.	Adjudged.
2	December..	2	.....	Petit larceny.	Fine.
1		1	.....	Petit larceny	House of refuge.
2		2	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny.	Jail.
2		2	.....	Petit larceny	Jail.
	1885.				
3	January ...	3	.....	Petit larceny.	House of refuge.
1		1	.....	Disorderly person.	Adjudged.
2	February ...	2	.....	Disorderly person	Adjudged.
2		2	.....	Petit larceny	Penitentiary.
3		3	.....	Intoxication	Fine.
2		2	.....	Assault	Fine.
2	March.	2	.....	Vagrancy.	Jail.
1		1	.....	Vagrancy	Adjudged.
3		3	.....	Intoxication.	Fine.
1		1	.....	Petit larceny	Fine.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Gambling	Fine.
1	April	1	.....	Petit larceny	Penitentiary.
1		1	.....	Cruelty to animals	Jail
1	May	1	.....	Assault.	Penitentiary.
1		1	.....	Intoxication.	Penitentiary.
6	June	6	.....	Assault	Penitentiary.
2		2	.....	Assault	Fine
1		1	.....	Assault	Jail.
6		6	.....	Intoxication.	Fine.
2		2	.....	Intoxication.	Penitentiary.
1		1	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Penitentiary.
1		1	.....	Disorderly person	Adjudged.
2		2	.....	Petit larceny	Jail.
1		1	.....	Tramp.	Penitentiary.
1	July	1	.....	Disorderly person	Adjudged.

Table K.—County of Otsego—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	July		1	Disorderly person	Fine.
1			1	Disorderly house	Penitentiary.
3		3		Intoxication	Fine.
2		2		Intoxication	Penitentiary.
3		3		Intoxication	Jail.
2		2		Assault	Penitentiary.
1		1		Assault	Fine.
1		1		Cruelty to animals	Penitentiary.
1		1		Vagrancy	Adjudged.
1		1		Vagrancy	Jail.
1		1		False pretense	House of refuge.
5	August	5		Intoxication	Fine.
4		4		Intoxication	Jail.
1		1		Intoxication	Penitentiary.
1		1		Assault	Penitentiary.
1		1		Assault	Fine.
2			2	Vagrancy	Penitentiary.
1			1	Disorderly person	Adjudged.
1	September	1		Assault	Fine.
1		1		Assault	Penitentiary.
2		2		Vagrancy	Penitentiary.
11		11		Intoxication	Fine.
2		2		Intoxication	Penitentiary.
1		1		Intoxication	Jail.
2		2		Petit larceny	Jail.
1		1		Petit larceny	Penitentiary.
2	October	2		Intoxication	Fine.
1		1		Intoxication	Jail.
1		1		Assault	Fine.
1		1		Petit larceny	Jail.

COUNTY OF PUTNAM.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	January	2		Violating excise law	Fine.
1		1		Assault	Jail.
1		1		Petit larceny	Fine.
7	February	7		Vagrancy	Jail.
1		1		Vagrancy	Poor-house.
1		1		Disorderly person	Jail.
1			1	Assault	Jail.
1	March	1		Assault	Penitentiary.
1		1		Assault	Fine.
1	April		1	Intoxication	Fine.
1	June	1		Assault	Fine.
2		1	1	Assault	Jail.
1		1		Assault	Penitentiary.
4		4		Intoxication	Fine.
1		1		Malicious trespass	Jail.
1		1		Petit larceny	Fine.
1		1		Petit larceny	Penitentiary.
3		3		Vagrancy	Adjudged.
1		1		Disorderly person	Adjudged.
1			1	Disorderly person	House of refuge.
1	July	1		Vagrancy	Adjudged.
2		2		Disorderly person	House of refuge.
1		1		Disorderly person	Fine.
1		1		Disorderly person	Adjudged.
2		2		Intoxication	Fine.
2		2		Malicious mischief	Fine.
8	August.	8		Intoxication	Fine.
1		1		Intoxication	Jail.
2		2		Vagrancy	Adjudged.
1		1		Breach of the peace	Jail.
1		1		Assault	Fine.
8	September	8		Intoxication	Fine.
2		2		Intoxication	Jail.
1		1		Tramp	Penitentiary
1		1		Tramp	Adjudged.
2		2		Petit larceny	Fine.
1		1		Petit larceny	Penitentiary.

Table K.—County of Putnam—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
9	1885. October	9		Intoxication	Fine.
1		1		Intoxication	Jail.
1		1		Vagrancy	Adjudged.
1		1		Disorderly conduct	Adjudged.
2		2		Tramp	Adjudged.
1		1		Assault	Penitentiary.

COUNTY OF QUEENS.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
8	1884. November	8	1	Vagrancy	Adjudged.
3		3		Vagrancy	Jail.
6		6		Vagrancy	Poor-house.
1		1		Vagrancy	House of refuge.
1		1		Malicious mischief	Fine.
1		1		Disorderly person	Jail.
3		3		Disorderly conduct	Fine.
1		1		Disorderly conduct	House of refuge.
8		8		Assault	Fine.
1		1		Assault	Jail.
1		1		Assault	Penitentiary.
7		7		Intoxication	Fine.
4		2	2	Petit larceny	Fine.
2		2		Petit larceny	Penitentiary.
2		2		Petit larceny	Jail.
1		1		Disturbing an oyster bay	Fine.
1		1		Breach of the peace	Fine.
10	December	10		Vagrancy	Adjudged.
12		12		Vagrancy	Jail
21		21		Vagrancy	Poor-house.
2		2		Vagrancy	House of refuge.
21		19	2	Intoxication	Fine.
1		1		Intoxication	Jail.
1		1		Assault	Jail.
7		7		Assault	Fine.
1		1		Assault	Suspended.
4		4		Petit larceny	Fine.
1		1		Petit larceny	Jail.
1		1		Petit larceny	Penitentiary.
1		1		Indecent exposure	Penitentiary.
2		2		Malicious mischief	Jail.
1		1		Breach of the peace	Fine.
1		1		Affray	Fine.
1		1		Misdemeanor	Fine.
1		1		Disorderly person	Fine.
33	1885. January	33		Vagrancy	Jail.
21		21		Vagrancy	Poor-house.
4		4		Vagrancy	Adjudged.
2		2		Vagrancy	Fine.
10		10		Assault	Fine.
1		1		Assault	Suspended.
1		1		Assault	Jail.
19		19		Intoxication	Fine.
6		6		Petit larceny	Jail.
3		3		Petit larceny	Fine.
2		2		Petit larceny	Penitentiary.
1		1		Petit larceny	Discharged.
2		2		Malicious mischief	Fine.
1		1		Breach of the peace	Bonded.
1		1		Disorderly person	Adjudged.
2		2		Disorderly person	Jail.
2		2		Reckless driving	Fine.
1		1		Affray	Fine.
42	February	42		Vagrancy	Jail.
7		7		Vagrancy	Poor-house.
21		21		Vagrancy	Adjudged.
2		2		Assault	Jail.
1		1		Assault	Penitentiary.
5		5		Assault	Fine.
8		8		Intoxication	Jail.

Table K.— County of Queens — (Continued).

Number of convictions.	When convicted	Males.	Females.	Offense	Sentence.
	1885.				
4	February.	4		Intoxication	Fine.
2		2		Petit larceny	Penitentiary.
1		1		Petit larceny	Jail.
1		1		Petit larceny	Fine.
3		3		Disorderly conduct	Fine.
1		1		Disorderly person	Fine.
2		2		Reckless driving	Fine.
1		1		Unl'wf'l pr'ctice of m'd'cine	Fine.
1		1		Breach of the peace	Jail.
8	March	8		Vagrancy	Fine.
13		13		Vagrancy	Adjudged.
18		18		Vagrancy	Jail.
13		13		Vagrancy	Poor-house.
15		15		Intoxication	Fine.
1		1		Intoxication	Jail.
1		1		Reckless driving	Fine.
4		4		Petit larceny	Fine.
3		3		Assault	Fine.
1		1		Assault	Jail.
1		1		Assault	Penitentiary
2		2		Disorderly person	Fine.
2		2		Disorderly person	Jail.
5		5		Disorderly conduct	Fine.
1		1		Embezzlement	Jail.
2		2		Trespass	Jail.
1		1		Trespass	Fine.
6	April	6		Vagrancy	Adjudged.
6		6		Vagrancy	Poor-house.
4		4		Vagrancy	Jail.
1		1		Vagrancy	Fine.
4		4		Vagrancy	Penitentiary.
6		6		Assault	Fine.
4		4		Assault	Jail.
1		1		Assault	Penitentiary.
1		1		Petit larceny	Jail.
1		1		Petit larceny	Penitentiary.
1		1		Carrying concealed weapons	Fine.
27		25	2	Intoxication	Fine.
9		9		Intoxication	Jail.
1		1		Violating game law	Fine.
1		1		Disorderly conduct	Penitentiary.
2		2		Disorderly conduct	Jail.
8		8		Disorderly conduct	Fine.
1		1		Disorderly person	Fine.
2		2		Malicious mischief	Jail.
4		4		Cruelty to animals	Fine.
2		2		Violating penal code	Fine.
1		1		Trespass	Fine.
1		1		Carrying burglar's tools	Penitentiary.
1	May	1		Embezzlement	Fine.
4		4		Assault	Fine.
1		1		Disorderly person	Fine.
4		4		Disorderly conduct	Fine.
14		14		Intoxication	Fine.
2		1	1	Intoxication	Jail.
1		1		Vagrancy	Poor-house.
1		1		Indecent exposure	Penitentiary.
1		1		Petit larceny	Fine
1	June	1		Disorderly conduct	Penitentiary.
20		20		Disorderly conduct	Fine.
1		1		Disorderly conduct	House of refuge.
9		9		Disorderly conduct	Jail.
1			1	Disorderly child,	House of refuge.
1			1	Disorderly person	Jail.
16		14	2	Intoxication	Fine.
3		1	2	Intoxication	Jail.
2		2		Vagrancy	Poor-house.
6		6		Vagrancy	Adjudged.
14		14		Assault	Fine.
2		2		Assault	Penitentiary.

Table K. — County of Queens — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	June	2		Petit larceny	Jail.
5		5		Petit larceny	Fine.
2		2		Petit larceny	House of refuge.
2		1	1	Breach of the peace	Fine.
1		1		Disorderly person	Adjudged.
4		4		Disorderly person	Jail.
1		1		Trespass	Jail.
1		1		Violating excise	Fine.
2	July	2		Breach of the peace	Fine.
14		11	3	Assault	Fine.
1		1		Assault	Penitentiary.
2		2		Assault	Suspended.
1		1		Assault	Jail.
1			1	Keeping disorderly house	Penitentiary.
1		1		Affray	Fine.
15		14	1	Intoxication	Fine.
4		2	2	Intoxication	Jail.
1		1		Intoxication	Penitentiary.
5		5		Vagrancy	Adjudged.
2		2		Vagrancy	Poor-house.
1		1		Vagrancy	Jail.
1		1		Cruelty to animals	Jail.
1		1		Cruelty to animals	Fine.
1		1		Violating excise law	Fine.
3		3		Disorderly conduct	Fine.
6		6		Disorderly conduct	Jail.
3			3	Disorderly person	Jail.
1			1	Disorderly person	Fine.
1		1		Disorderly child	House of refuge.
2		2		Petit larceny	Penitentiary.
7		6	1	Petit larceny	Fine.
3		3		Disorderly person	Poor-house.
1		1		Disorderly person	Fine.
1		1		Disorderly person	Adjudged.
2		1	1	Malicious mischief	Fine.
1		1		Malicious trespass	Fine.
3		3		Violating ordinance	Fine.
3	August	3		Assault	Jail.
16		15	1	Assault	Fine.
2		2		Disorderly person	Jail.
2			2	Disorderly person	Jail.
3		3		Disorderly person	Poor-house.
1		1		Disorderly person	Bonded.
7		7		Disorderly person	Fine.
4		3	1	Petit larceny	Fine.
1		1		Petit larceny	House of refuge.
3		3		Petit larceny	Jail.
13		12	1	Intoxication	Fine.
1			1	Intoxication	Jail.
1		1		Indecent exposure	Fine.
1			1	Indecent exposure	Jail.
2		2		Vagrancy	Jail.
3		3		Vagrancy	Poor-house.
2		2		Violating ordinance	Fine.
1		1		Truancy	Jail.
1		1		Malicious mischief	Reformatory.
5	September	4	1	Assault	Jail.
12		9	3	Assault	Fine.
2		2		Breach of the peace	Fine.
1		1		Vagrancy	Penitentiary.
3		3		Vagrancy	Adjudged.
12		12		Vagrancy	Poor-house.
2		2		Vagrancy	Jail.
6		6		Intoxication	Fine.
3		3		Intoxication	Jail.
2		2		Malicious mischief	Fine.
10		5	5	Disorderly person	Jail.
19		16	3	Disorderly person	Fine.
1		1		Disorderly person	House of refuge.
1		1		Bastardy	Jail.

Table K.—County of Queens—(Continued).

Number of convictions.	Date of conviction.	Males.	Females.	Offense.	Sentence.
1	1885. September.	1	.....	Misdemeanor	Fine.
3		3	....	Petit larceny	Fine.
3		3	..	Petit larceny	Jail.
1		1	.. ..	Disorderly conduct	Fine.
1		1	.... ..	Threats	Bonded.
18	December.	17	1	Intoxication	Fine.
8		7	1	Intoxication	Jail.
1		1	.. ...	Intoxication	Suspended.
1		1	. ...	Contempt of court	Jail.
9		6	3	Assault	Fine.
2		1	1	Assault	Jail.
4		4	. ....	Vagrancy	Jail.
17		17	....	Vagrancy	Poor-house.
5		5	......	Vagrancy	Adjudged.
1		1	.....	Violating game law	Fine.
8		5	3	Disorderly conduct	Fine.
4		4	.....	Petit larceny	Fine.
4		4	... ..	Breach of the peace	Fine.
2		2	......	Malicious mischief	Jail.
1		1	.. ..	Malicious mischief	Fine.
1		1	... ..	Indecent exposure	Jail.
1		1	......	Violating excise law	Fine.

COUNTY OF RENSSELAER.

Number of convictions.	Date of conviction.	Males.	Females.	Offense.	Sentence.
1	1884. November.	1	... ..	Disorderly person	Bail.
1		.....	1	Disorderly person	Jail.
41		41	......	Disorderly person	Fine.
71		71	.....	Disorderly person	Suspended.
6		6	......	Disorderly person	Jail.
10		9	1	Assault	Fine.
8		8	.....	Assault	Suspended.
1		1	.....	Assault	Jail.
13		13	.... .	Intoxication	Fine.
2		2	....	Intoxication	Jail.
17		17	....	Intoxication	Suspended.
6		6	... ..	Vagrancy	Asylum.
1		1	... ..	Vagrancy	Jail.
1		1	.....	Vagrancy	Poor-house.
7		7	... ..	Breach of the peace	Fine.
5		5	.....	Petit larceny	Jail.
2		2	.....	Petit larceny	Fine.
44	December.	44	......	Disorderly person	Fine.
42		42	. ....	Disorderly person	Suspended.
8		8	......	Disorderly person	Jail.
1		1	.....	Disorderly person	House of refuge.
3		... ..	3	Disorderly person	Bailed.
22		22	.....	Petit larceny	Suspended.
10		10	... ..	Petit larceny	Jail.
4		4	.....	Petit larceny	Fine.
5		5	. ..	Misdemeanor	Fine.
5		5	.....	Misdemeanor	Suspended.
45		43	2	Intoxication	Suspended.
1		1	......	Intoxication	Jail.
18		18	....	Intoxication	Fine.
12		12	......	Assault	Suspended.
1		1	.....	Assault	Jail.
7		6	1	Assault	Fine.
3		3	......	Vagrancy	House of refuge.
1		1	......	Vagrancy	Jail.
1		1	.. ...	Vagrancy	Suspended.
1		1	..	Vagrancy	Poor-house.
2		2	......	Malicious trespass	Suspended.
6		6	......	Violating city ordinance	Suspended.
8		8	....	Violating city ordinance	Fine.
5		3	2	Destitute	Catholic protectorate.
4		4	....	Destitute	Asylum.
2		2	. ...	Disturbing religious meeting	Fine.
1		1	.. ...	Violating Sunday laws	Fine.

Table K. — *County of Rensselaer* — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
12	January .	7	5	Destitute	Protectorate.
27		26	1	Intoxication	Suspended.
20		18	2	Intoxication	Fine.
2		2	.....	Intoxication	Jail.
5		5	....	Disorderly person	Bailed.
37		35	2	Disorderly person	Fine.
31		30	1	Disorderly person	Suspended.
4		4	......	Disorderly person	Jail.
11		11	......	Violating city ordinance	Fine.
11		11	......	Assault	Suspended.
4		4	......	Assault	Jail.
3		3	.....	Assault	Fine.
5		5	....	Misdemeanor	Suspended.
1		1	......	Misdemeanor	Fine.
2		2	......	Vagrancy	House of refuge.
6		6	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Fine.
4		4	......	Vagrancy	Suspended.
2		2	....	Vagrancy	Adjudged.
8		8	.....	Petit larceny	Jail
3		2	1	Petit larceny	Fine.
13	February ..	13	.....	Assault	Suspended.
3		3	....	Assault	Fine.
5		5	......	Petit larceny	Fine.
1		1	.....	Petit larceny	Penitentiary.
3		3	....	Petit larceny	Suspended.
1		1	......	Petit larceny	Jail.
1		1	...	Misdemeanor	Fine.
8		5	3	Destitute	Asylum
1		1	......	Vagrancy	Fine.
3		3	.....	Vagrancy	Suspended.
2		2	.....	Vagrancy	Jail.
1		1	....	Violating city ordinance	Suspended.
1		1	.....	Violating city ordinance	Fine.
3		1	2	Intoxication	Fine.
19		17	2	Disorderly person	Suspended.
33		26	7	Disorderly person	Fine.
41		36	5	Disorderly person	Suspended.
4		4	.....	Disorderly person	Jail.
1		......	1	Disorderly person	Penitentiary.
2	March	2	....	Petit larceny	Fine.
3		3	......	Petit larceny	Suspended.
2		2	......	Disorderly person	Jail.
33		33	......	Disorderly person	Fine.
34		34	....	Disorderly person	Suspended.
1		1	....	Malicious trespass	Fine.
1		1	....	Violating city ordinance	Fine.
1		1	...	Disturbing religious meeting	Fine.
2		2	....	Misdemeanor	Jail.
1		1	....	Misdemeanor	Suspended.
5		4	1	Vagrancy	Jail.
3		1	2	Vagrancy	Suspended.
1		1	...	Vagrancy	House of refuge.
1		1	....	Vagrancy	Hospital.
8		2	6	Destitute	Asylum.
9		9	......	Assault	Suspended.
5		4	1	Assault	Fine.
1		1	......	Assault	Penitentiary.
36		31	5	Intoxication	Suspended.
16		11	5	Intoxication	Fine.
1	April	1	......	Suffering from disease	Hospital.
8		1	7	Destitute	Asylum.
7		6	1	Misdemeanor	Suspended.
3		3	....	Misdemeanor	Asylum.
6		6	.....	Malicious mischief	Suspended.
2		2	.....	Vagrancy	House of refuge.
1		1	......	Vagrancy	Suspended.
7		7	......	Vagrancy	Fine.
3		3	....	Vagrancy	Jail.
7		6	1	Petit larceny	Suspended.

Table K. — County of Rensselaer — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
5	April	5		Petit larceny	Fine.
1		1		Assault	Bail.
5		5		Assault	Jail.
15		13	2	Assault	Suspended
2		2		Malicious mischief	Suspended
9		5	4	Intoxication	Fine.
36		35	1	Intoxication	Suspended.
23		23		Intoxication	Jail.
14		5	9	Disorderly person	Suspended.
9		5	4	Disorderly person	Fine.
23		23		Disorderly person	Jail.
1	May	1		Malicious mischief	Suspended.
4		4		Violating city ordinance	Suspended.
1		1		Vagrancy	Fine.
3		3		Vagrancy	Asylum.
1		1		Vagrancy	House of refuge.
3		3		Vagrancy	Jail.
1			1	Vagrancy	Poor-house.
11		6	5	Destitute	Asylum.
14		14		Petit larceny	Suspended.
6		6		Petit larceny	House of refuge.
2		2		Petit larceny	Fine.
2		1	1	Petit larceny	Jail.
29		22	7	Assault	Suspended.
14		13	1	Assault	Fine.
97		97		Assault	Suspended.
42		42		Assault	Fine.
23		23		Assault	Jail.
20			20	Disorderly person	Suspended.
6			6	Disorderly person	Fine.
2			2	Disorderly person	Jail.
1	June	1		Misdemeanor	Suspended.
1		1		Contempt of court	Fine.
4		4		Trespass on railroad	Suspended.
2		2		Malicious mischief	Fine.
4		4		Violating city ordinance	Suspended.
2		2		Petit larceny	Suspended.
2		2		Petit larceny	Fine.
2		2		Petit larceny	Jail.
10		10		Disorderly child	Asylum.
13			13	Disorderly person	Fine.
4			4	Destitute child	Asylum.
4		4		Vagrancy	Jail.
1		1		Vagrancy	Asylum.
2		2		Vagrancy	Adjudged.
2		2		Assault	Jail.
3		3		Assault	Bonded.
6		6		Assault	Suspended.
6		5	1	Assault	Fine.
85		85		Disorderly person	Fine.
161		130	31	Intoxication	Suspended.
1	July	1		Resisting an officer	Suspended.
10		10		Misdemeanor	Fine.
9		9		Petit larceny	Suspended.
2		2		Petit larceny	House of refuge.
2		2		Vagrancy	Adjudged.
2		2		Vagrancy	Poor-house.
2		2		Vagrancy	Suspended.
3		3		Vagrancy	Jail.
1		1		Vagrancy	House of refuge.
38		30	8	Assault	Suspended.
18		17	1	Assault	Fine.
1		1		Assault	Jail.
50		44	6	Drunk and disorderly	Fine.
4		2	2	Drunk and disorderly	Jail.
183		168	15	Drunk and disorderly	Suspended
1		1		Drunk and disorderly	Bonded.
1	August	1		Trespass on cars	Fine.
13		13		Assault	Suspended.
3		2	1	Assault	Fine.

Table K. — County of Rensselaer — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
8	August.....	8	......	Misdemeanor	Suspended.
1		1	......	Vagrancy	Asylum.
2		1	1	Vagrancy	House of refuge.
1		1	......	Vagrancy	Jail.
5		5	......	Petit larceny	Fine.
4		4	......	Petit larceny	Suspended.
131		120	11	Disorderly person	Suspended.
1		1	......	Disorderly person	Asylum.
3		1	2	Disorderly person	Jail.
2		2	......	Disorderly person	Bailed.
45		38	7	Disorderly person	Fine.
174	September.	153	21	Disorderly person	Suspended.
25		25	......	Disorderly person	Fine.
25		......	25	Disorderly person	Jail.
60		60	......	Intoxication	Fine.
18		18	......	Intoxication	Jail.
13		13	......	Assault	Jail.
5		5	......	Assault	Suspended.
1	October ...	1	......	Obt'ng g'ds und'r f'se pr't'se	Fine.
1		1	......	Misdemeanor	Suspended.
7		7	......	Petit larceny	Suspended.
19		15	4	Assault	Suspended.
14		14	......	Assault	Jail.
4		4	......	Vagrancy	Jail.
2		2	......	Vagrancy	Suspended.
160		135	25	Drunk and disorderly	Suspended.
43		35	8	Drunk and disorderly	Jail.
21		21	......	Drunk and disorderly	Fine.

COUNTY OF ST. LAWRENCE.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November .	1	......	Petit larceny	Penitentiary.
1		1	......	Petit larceny	Jail.
2		2	......	Intoxication	Penitentiary.
4		4	......	Intoxication	Fine.
1		1	......	Assault	Jail.
1		1	......	Assault	Fine.
1	December:	......	1	Breach of the peace.	Penitentiary.
1		1	......	Intoxication	Fine.
1		1	......	Assault	Fine.
	1885.				
1	January....	1	......	Intoxication	Jail.
2		2	......	Intoxication	Fine.
1	February...	1	......	Vagrancy	Penitentiary.
1		1	......	Disorderly person	Adjudged.
1		1	......	Petit larceny	House of refuge.
1		1	......	Petit larceny	Penitentiary.
2		2	......	Assault	Fine.
1		1	......	Intoxication	Penitentiary.
1		1	......	Intoxication	Jail.
1	March.....	1	......	Intoxication	Fine.
2		2	......	Intoxication	Jail.
1		1	......	Intoxication	Penitentiary
2		2	......	Assault	Fine.
1		1	......	Assault	Jail.
1		1	......	Assault.	Penitentiary.
1	April......	1	......	Intoxication	Jail.
3		3	......	Intoxication	Fine.
1		1	......	Violating excise law	Jail.
3		3	......	Petit larceny	Jail.
1		1	......	Petit larceny	Fine.
3		3	......	Assault	Fine.
1		1	......	Assault	Jail.
2		2	......	Disorderly person	Penitentiary
2	May.........	2	......	Disorderly person	Jail.
1		1	......	Violating excise law	Fine.
4		4	......	Assault	Fine.
1		1	......	Assault	Jail.
3		3	......	Intoxication	Fine.

Table K.— County of St. Lawrence — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	May......	2	......	Petit larceny	Fine.
1		1	......	Petit larceny	Penitentiary.
1		1	......	Breach of the peace	Jail.
1	June.......	1	......	Violating excise	Fine.
1		1	......	Rape	Jail.
2		2	......	Intoxication	Fine.
1		1	......	Misdemeanor	Fine.
5		5	......	Assault	Fine.
1		1	......	Assault	Jail.
1		1	......	Disorderly person	Jail.
1		1	......	Petit larceny	Discharged.
1		1	......	Defrauding hotel keeper	Penitentiary.
1		1	......	Affray	Jail.
1	July........	...	1	Prostitution	Jail.
2		2	......	Assault	Jail.
1		1	......	Assault	Penitentiary.
2		2	......	Intoxication	Jail.
2		2	......	Intoxication	Fine.
1		1	......	Petit larceny	Jail.
2	August.....	2	......	Assault	Fine.
2		2	......	Intoxication	Jail.
2		2	......	Intoxication	Fine.
3		3	......	Breach of the peace	Fine.
1		1	......	Disorderly person	Adjudged.
1		1	......	Affray	Penitentiary.
1		1	......	Petit larceny	House of refuge.
1		1	......	Petit larceny	Penitentiary.
1	September.	......	1	Prostitution	Jail.
1		......	1	Vagrancy	Adjudged.
2		2	......	Petit larceny	Fine.
2		2	......	Petit larceny	Penitentiary.
1		1	......	Disorderly person	Fine.
5		5	......	Intoxication	Jail.
1		1	......	Intoxication	Penitentiary.
1		1	......	Intoxication	Fine.
3		3	......	Assault	Jail.
2		2	......	Assault	Fine.
1		1	......	Misdemeanor	Fine.

COUNTY OF SARATOGA.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	January....	2	......	Assault	Penitentiary.
6		6	......	Vagrancy	Adjudged.
1		1	......	Vagrancy	Jail.
3		3	......	Intoxication	Jail.
1		1	......	Intoxication	Penitentiary.
4		4	......	Intoxication	Fine.
1	February...	1	......	Petit larceny	Penitentiary.
1		1	......	Assault	Fine.
1		1	......	Vagrancy	Poor-house.
3		3	......	Vagrancy	Adjudged.
5		5	......	Vagrancy	Jail.
3		3	......	Intoxication	Jail.
3		3	......	Intoxication	Fine.
2	March......	1	1	Petit larceny	Penitentiary.
2		2	......	Petit larceny	House of refuge.
1		1	......	Assault	Penitentiary.
1		1	......	Assault	Jail.
1		1	......	Disorderly person	Adjudged.
4		4	......	Vagrancy	Jail.
16		16	......	Vagrancy	Adjudged.
2		2	......	Intoxication	Jail.
3		3	......	Intoxication	Fine.
3	April.......	3	......	Petit larceny	House of refuge.
3		3	......	Assault	Penitentiary.
1		1	......	Intoxication	Jail.
1		1	......	Intoxication	Penitentiary.
16		16	......	Intoxication	Fine.
2		2	......	Disorderly person	Fine.
12		12	......	Vagrancy	Jail.

Table K. — County of Saratoga — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	April	1		Vagrancy	Fine.
2		2		Vagrancy	Poor-house.
2		2		Vagrancy	Asylum.
1		1		Vagrancy	House of refuge.
4	May	4		Petit larceny	Penitentiary.
2		2		Assault	Penitentiary.
4		4		Vagrancy	Poor-house.
1		1		Vagrancy	Penitentiary.
5		5		Vagrancy	Jail.
4		4		Intoxication	Jail.
2		2		Intoxication	Fine.
1		1		Intoxication	Penitentiary.
1		1		Trespass on cars	Jail.
2	June	1	1	Vagrancy	Jail.
6		6		Vagrancy	Adjudged.
1		1		Vagrancy	Penitentiary.
7		7		Intoxication	Jail.
3		3		Intoxication	Fine.
1		1		Petit larceny	Fine.
1		1		Petit larceny	Penitentiary.
1		1		Petit larceny	Jail.
1		1		Assault	Fine.
2		2		Assault	Jail.
1		1		Misdemeanor	Jail.
1	July	1		Petit larceny	Penitentiary.
1		1		Petit larceny	Fine.
1		1		Petit larceny	Jail.
1		1		Assault	Penitentiary.
2		2		Assault	Jail.
3		3		Disorderly person	Jail.
7		7		Vagrancy	Jail.
3		3		Intoxication	Jail.
24		24		Intoxication	Fine.
1	August	1		Breach of the peace	Fine.
4		4		Petit larceny	Penitentiary.
3		3		Assault	Fine.
2		2		Assault	Penitentiary.
3		3		Assault	Jail.
1		1		Disorderly conduct	Fine.
5		5		Disorderly conduct	Jail.
1		1		Violation excise law	Fine.
1		1		Trespass on cars	Jail.
5		5		Vagrancy	Adjudged.
3		3		Vagrancy	Penitentiary.
1		1		Vagrancy	Jail.
5		5		Intoxication	Jail.
2		2		Intoxication	Penitentiary.
28		28		Intoxication	Fine.
3	September	3		Assault	Fine.
1		1		Violating excise	Fine.
1		1		Disorderly person	Bailed.
1	October	1		Vagrancy	Adjudged.
2		2		Vagrancy	Poor-house.
5		5		Vagrancy	Jail.
3		3		Intoxication	Jail.
17		17		Intoxication	Fine.

COUNTY OF SCHENECTADY

	1884.				
1	November	1		Petit larceny	Jail.
3	December	3		Petit larceny	Jail.
1		1		Assault	Jail.
2		2		Disorderly person	Jail.
	1885.				
2	January	2		Petit larceny	Jail.
1		1		Assault	Jail.
1	February	1		Petit larceny	Jail.
2	March	2		Assault	Jail.
2	April	2		Assault	Jail.
1		1		Petit larceny	Jail.

Table K. — County of Schenectady—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
4	May	4	.....	Assault	Jail.
1		1	.....	Assault	House of refuge
3	June	3	.....	Breach of the peace.	Jail.
1		1	.....	Petit larceny	House of refuge.
2	August	2	.....	Violating excise law	Jail.
6		6	.....	Assault	Jail.
1		1	.....	Gambling	Jail.
1		1	.....	Breach of the peace	Jail.
1		1	.....	Petit larceny	Jail.
				COUNTY OF SCHOHARIE.	
	1884.				
1	November.	1	.....	Petit larceny	Penitentiary.
1	December.	1	.....	Assault	Penitentiary.
1		1	.....	Petit larceny	Jail.
	1885.				
1	January.	1	.....	Vagrancy	Adjudged.
2	February	2	.....	Vagrancy	Adjudged.
1	March	1	.....	Assault	Jail.
1	April	1	.....	Intoxication	Fine.
1	May	1	.....	Assault	Penitentiary.
1		1	.....	Assault	Jail.
1	June	1	.....	Petit larceny.	Penitentiary.
1		1	.....	Intoxication	Fine.
1	July	1	.....	Assault	Jail.
1		1	.....	Assault	Fine.
1		1	.....	Assault	Penitentiary.
1		1	.....	Breach of the peace	Jail.
4		4	.....	Intoxication	Fine.
1		1	.....	Intoxication	Jail.
1		1	.....	Petit larceny	Jail.
				COUNTY OF SCHUYLER.	
	1884.				
1	November	1	.....	Tramp	Penitentiary.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Intoxication	Jail.
	1885.				
2	January.	2	...	Trespass on cars	Fine.
1		1	.....	Vagrancy	Jail.
1		1	.....	Intoxication	Fine.
2		2	.....	Tramp	Penitentiary.
1		1	.....	Desertion	Penitentiary.
1		1	.....	Assault	Penitentiary.
1		1	.....	Violating excise law	Penitentiary.
1		1	.....	Violating excise law.	Jail.
1		1	.....	Violating excise law	Fine.
1	April	1	.....	Intoxication	Fine.
1		1	.....	Assault	Jail.
1	July	1	.....	Assault	Penitentiary.
1	August	1	.....	Petit larceny	Penitentiary.
1		1	.....	Tramp	Penitentiary.
1	September	1	.....	Disorderly person	Penitentiary.
1		1	.....	Assault	Jail.
1		1	.....	Assault	Fine.
1		1	.....	Petit larceny	Jail.
				COUNTY OF SENECA.	
	1884.				
7	November.	6	1	Intoxication	Penitentiary.
12		10	2	Intoxication	Jail.
16		16	.....	Vagrancy	Jail.
2		2	.....	Vagrancy	Penitentiary.
2		2	.....	Malicious mischief	Penitentiary.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Jail.
3		3	.....	Petit larceny	Fine.
1		1	.....	Disorderly conduct	Penitentiary.
1		1	.....	Defrauding hotel keeper	Jail.
1		1	.....	Assault	Penitentiary.

Table K. — County of Seneca — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November..	1	......	Assault	Fine.
3	December..	3	.. ..	Vagrancy	Penitentiary.
8		8	......	Vagrancy	Jail.
1		1	......	Vagrancy	Poor-house.
3		3	......	Intoxication	Penitentiary.
4		4	......	Intoxication	Jail.
2		2	......	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Jail.
1		.....	1	Disorderly conduct	Penitentiary.
	1885.				
1	January....	1	......	Petit larceny	Penitentiary.
1		......	1	Prostitution	Penitentiary.
1		1	.....	Intoxication	Penitentiary.
2		2	......	Intoxication	Jail.
9		9	......	Vagrancy	Jail.
3		3	......	Vagrancy	Penitentiary.
1		1	......	Vagrancy	House of refuge.
1		1	......	False pretense	Penitentiary.
1		1	......	Disorderly person	Penitentiary.
3		3	......	Disorderly person	Jail.
1	February...	......	1	Prostitution	Penitentiary.
1		1	.....	Intoxication	Fine.
7		7	.. ..	Intoxication	Jail.
2		2	......	Petit larceny	Penitentiary
1		1	.. ...	Disorderly person	Penitentiary.
7		7	......	Vagrancy	Jail.
1		1	.....	Disorderly conduct	Jail.
6	June	6	......	Intoxication	Penitentiary.
7		4	3	Intoxication	Jail.
2		2	.. ...	Vagrancy	Penitentiary.
6	July	6	.. ..	Intoxication	Jail.
2		2	......	Intoxication	Penitentiary.
3		3	.....	Assault	Fine.
1		1	......	Assault	Penitentiary.
1		......	1	Prostitution	Penitentiary.
1	August	1	......	Assault	Penitentiary.
2		2	......	Misdemeanor	Penitentiary.
5		4	1	Intoxication	Fine.
1		.....	1	Intoxication	Penitentiary.
1		....	1	Intoxication	Jail.
1		1	......	Disorderly person	Penitentiary.
1		1	.. ...	Disorderly person	Fine.
5		5	......	Petit larceny	Jail.
1		......	1	Prostitution	Penitentiary.

COUNTY OF STEUBEN.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
5	November .	5	......	Intoxication	Fine.
1		1	......	Intoxication	Jail.
2		2	......	Vagrancy	Jail.
2		2	... ..	Assault	Fine.
1		1	.....	Assault	Jail.
4		4	......	Malicious mischief	Jail.
6		6	......	Petit larceny	Penitentiary.
3		3	......	Selling obscene literature	Penitentiary.
3		3	......	Trespass on cars	Penitentiary.
1		1	.. ..	Defrauding hotel keeper	Jail.
4	December .	4	.....	Intoxication	Fine.
1		1	.....	Intoxication	Penitentiary.
3		3	.. ..	Vagrancy	Penitentiary.
4		4	......	Vagrancy	Jail.
3		3	......	Vagrancy	Adjudged.
1		1	......	Disturbing religious meet'g	Fine.
2		2	. ...	Petit larceny	Jail.
	1885.				
7	January ...	7	....	Intoxication	Fine.
1		1	.. ..	Assault	Penitentiary.
1		1	. ....	Assault	Jail.
1		1	......	Assault	Fine.
1		1	......	Vagrancy	Fine.
3		3	......	Disorderly person	Adjudged.

Table K. — County of Steuben — (Continued).

Number of convictions.	When convicted.	Males.	Females	Offense.	Sentence.
	1885.				
1	January ...	1	......	Petit larceny	Jail.
2	February ..	2	......	Vagrancy	Jail.
8		3	......	Vagrancy	Adjudged.
2		2	......	Petit larceny	Penitentiary.
1	March......	1	......	Assault	Penitentiary.
2		2	......	Assault	Jail.
2		2	......	Disorderly conduct	Jail.
4		3	1	Vagrancy	Jail.
1		1	......	Intoxication	Penitentiary.
10		10	......	Intoxication	Fine.
3	April	3	......	Vagrancy	Jail.
1		1	......	Vagrancy	Penitentiary.
1		1	......	Assault	Jail.
1		1	......	Assault	Fine.
1		1	......	Trespass on cars	Jail.
1		1	......	Petit larceny	Penitentiary.
1		......	1	Petit larceny	House of refuge.
12		12	......	Intoxication	Fine.
2	May	2	......	Intoxication	Penitentiary.
7		7	......	Intoxication	Fine.
1		1	......	Vagrancy	Penitentiary.
2		2	......	Vagrancy	Adjudged.
12	June	12	......	Intoxication	Fine.
1		1	......	Intoxication	Jail.
5		5	......	Vagrancy	Jail.
1		1	......	Vagrancy	Penitentiary.
1		1	......	Vagrancy	Adjudged.
3		3	......	Petit larceny	Jail.
1		1	......	Petit larceny	House of refuge.
1		1	......	Petit larceny	Penitentiary.
2		2	......	Assault	Jail.
2		2	......	Breach of the peace	Jail.
1		1	......	Malicious mischief	Jail.
6		6	......	Trespass on cars	Jail.
15	July	15	......	Intoxication	Fine
1		1	......	Intoxication	Penitentiary.
2		2	......	Vagrancy	Adjudged.
2	August.....	2	......	Intoxication	Penitentiary.
12		12	......	Intoxication	Fine.
1		1	......	Assault	Penitentiary
1		1	......	Assault	Jail.
1		1	......	Assault	House of refuge.
10		10	......	Vagrancy	Adjudged.
2		2	......	Disorderly person	Adjudged.
1		1	......	Disorderly conduct	Penitentiary.
1		1	......	Disorderly conduct	Jail.
1		1	......	Trespass on cars.	Jail
9	September.	9	......	Intoxication	Fine.
1		1	......	Vagrancy	Adjudged.
2		2	......	Violating excise law	Jail.
2		2	......	Trespass on cars	Penitentiary.
1		1	......	Trespass on cars	Jail.
2	October....	2	......	Cruelty to animals	Jail.
2		2	......	Vagrancy	Penitentiary.
2		2	......	Intoxication	Penitentiary.
9		9	......	Intoxication	Fine.
1		1	......	Assault	Jail.

COUNTY OF SUFFOLK.

Number of convictions.	When convicted.	Males.	Females	Offense.	Sentence.
	1885.				
8	January ...	8	......	Vagrancy	Adjudged.
1		1	......	Vagrancy	Poor-house.
2		2	......	Disorderly person	Jail.
2		2	......	Intoxication	Fine.
1		1	......	Petit larceny	Jail.
1		1	......	Petit larceny	Fine.
1		1	......	Assault	Fine.
1	February...	1	......	Vagrancy	Adjudged.
3	March.....	3	......	Petit larceny	Jail.
1		1	......	Petit larceny	Fine.

Table K.—County of Suffolk—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	March......	1	.....	Arson	Jail.
2		2	.....	Assault	Jail.
5		5	.....	Vagrancy..	Poor-house.
5		5	......	Vagrancy	Adjudged.
5		5	.....	Violating excise...	Fine.
3	April... ...	3	......	Intoxication..........	Jail.
1		1	......	Vagrancy	Adjudged.
1		1	.....	Petit larceny	Jail.
1	May......	1	......	Vagrancy	Poor-house.
1		1	......	Assault.........................	Fine.
1		1	.....	Assault	Jail.
2		2	......	Malicious trespass	Jail.
3	June	3	......	Assault.........	Jail.
1		1	... ..	Assault	Fine.
1		1	: ...	Vagrancy	Poor-house.
1		1	......	Disorderly person......... .	Poor-house.
1	July	1	......	Assault......	Fine.
2		2	......	Assault	Jail.
1		1	......	Vagrancy	Poor-house.
2		2	......	Petit larceny	Jail.
1		1	... ..	Intoxication................	Jail.
2		2	.....	Intoxication......	Fine.
1		1	......	Trespass	Bailed.
1	August.....	1	......	Cruelty to animals	Fine.
4		4	......	Intoxication......	Fine.
1		1	... ..	Disorderly conduct.	Jail.
3		3	... ..	Petit larceny	Jail.
2		2	......	Assault	Jail.
1		1	......	Assault	Fine.
1		1	......	Threat	Bailed.
2	September.	2	. . ..	Petit larceny.................	Fine.
1		1	.. ..	Petit larceny............. ...	Jail.
2		2	......	Intoxication...	Fine.
1		1	......	Assault	Fine.
1		1	......	Vagrancy.	Poor-house.
2		2	......	Misdemeanor..................	Fine.
2	October....	2	......	Violating excise law	Fine.
1		1	......	Assault	Fine.
1		1	......	Assault	Jail.
1		1	.. ...	Petit larceny	Jail.

COUNTY OF TIOGA.

	1885.				
1	January....	1	... ..	Assault	Fine.
2		2	......	Assault	Jail.
14		14	......	Intoxication....	Fine.
2		2	......	Intoxication.......	Jail.
4		4	......	Vagrancy	Adjudged.
1		1	......	Petit larceny....	Penitentiary.
1		1	......	Petit larceny............. ...	Jail.
1		1	.....	Petit larceny	Fine.
6	February ..	6	.....	Intoxication.................	Fine.
2		2	....	Intoxication................	Jail.
14		14	... ..	Vagrancy	Adjudged.
2		2	......	Assault...	Fine.
3	March......	3	.....	Intoxication	Fine.
3		3	......	Intoxication..................	Jail.
1		1	......	Disorderly conduct	Bonded.
1		1	.....	Disorderly conduct	Fine.
4		4	.... .	Assault	Fine.
1		1	...	Malicious mischief...... . .	Discharged.
5		5	......	Vagrancy	Adjudged.
1		1	......	Petit larceny	Fine.
12	April.......	12	... ..	Intoxication.................	Fine.
2		2	......	Intoxication.....	Jail.
1		1	.....	Vagrancy......	House of refuge.
8		8	......	Vagrancy	Jail.
5		5	......	Vagrancy	Adjudged.
1		1	....	Trespass on cars.......	Fine.
1		1	......	Interfering with an officer..	Fine.

Table K. — County of Tioga — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	April	1	......	Assault	Fine.
1	May	1	......	Intoxication	Jail.
13		13	......	Intoxication	Fine.
1		1	......	Vagrancy	Adjudged.
1		1	......	Petit larceny	Fine.
1		1	......	Petit larceny	Penitentiary.
1		1	......	Assault	Jail.
1	June	......	1	Intoxication	Discharged.
22		22	......	Intoxication	Fine.
4		4	......	Intoxication	Jail.
1		1	......	Petit larceny	Fine.
1		1	......	Petit larceny	Jail.
1		1	......	Vagrancy	Asylum.
1		1	......	Assault	Penitentiary.
1		1	......	Assault	Jail.
1		1	......	Assault	Fine.
1	July	1	......	Assault	Fine.
2		2	......	Assault	Jail.
15		15	......	Intoxication	Fine.
16	August	16	......	Intoxication	Fine.
5		5	......	Intoxication	Jail.
2		2	......	Assault	Fine.
1		1	......	Violating village ordinance	Fine.
23	September	23	......	Intoxication	Fine.
2	October	2	......	Assault	Fine.
13		13	......	Intoxication	Fine
1		1	......	Vagrancy	Adjudged.
1		1	......	Vagrancy	House of refuge.

COUNTY OF TOMPKINS.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
7	December	7	......	Intoxication	Fine.
1		1	......	Assault	Jail.
1		1	......	Vagrancy	Adjudged.
1		1	......	Petit larceny	Penitentiary.
2		2	......	Disorderly person	Jail.
	1885.				
5	January	5	......	Intoxication	Fine.
1		1	......	Intoxication	Suspended.
1		1	......	Vagrancy	Adjudged.
1		1	......	Petit larceny	Jail.
1		1	......	Assault	Fine.
1		1	......	Assault	Jail.
1	February	1	......	Intoxication	Fine.
1		1	......	Assault	Jail.
1		1	......	Vagrancy	Fine.
1		1	......	Disorderly person	Adjudged.
1		1	......	Disorderly person	Fine.
8	March	8	......	Intoxication	Fine.
1		1	......	Assault	Suspended.
2	April	2	......	Disorderly person	Adjudged.
1		1	......	Intoxication	Penitentiary.
4		4	......	Intoxication	Fine.
2		2	......	Intoxication	Suspended.
3		3	......	Assault	Fine.
1		1	......	Assault	Penitentiary.
1		1	......	Petit larceny	Penitentiary.
4	May	4	......	Intoxication	Fine.
3		2	1	Intoxication	Penitentiary.
2		2	......	Assault	Fine.
1	June	1	......	Disorderly person	Discharged.
2		2	......	Disorderly person	Fine.
16		16	......	Intoxication	Fine.
1		1	......	Intoxication	Suspended.
1		1	......	Assault	Jail.
6		6	......	Assault	Fine.
1		1	......	Assault	Discharged.
4		4	......	Vagrancy	Jail.
2	July	2	......	Intoxication	Suspended.
2		1	1	Intoxication	Fine.

Table K.— County of Tompkins — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
1	1885. July	1	.....	Intoxication	Penitentiary.
1		1	.....	Disorderly person	Penitentiary.
2		2	.....	Assault	Fine.
1	August	1	.....	Disorderly person	Jail.
3		3	.....	Disorderly person	Fine.
1		1	.....	Disorderly person	Adjudged.
2		2	.....	Assault	Jail.
1		1	.....	Trespass	Jail.
2	October	2	.....	Intoxication	Suspended.
7		7	.....	Intoxication	Fine.
2		1	1	Intoxication	Penitentiary.
1		1	.....	Misdemeanor	Fine.

COUNTY OF ULSTER.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
1	1885. February	1	.....	Prostitution	Jail.
2		2	.....	Disorderly conduct	Penitentiary.
2		2	.....	Disorderly conduct	Jail.
3		3	.....	Disorderly conduct	Fine.
1		1	.....	Misdemeanor	Jail.
1	March	1	.....	Vagrancy	House of refuge.
1		1	.....	Vagrancy	Penitentiary.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Fine.
3		3	.....	Assault	Fine.
1		1	.....	Violating excise law	Fine.
1	April	1	.....	Assault	Penitentiary.
1		1	.....	Disorderly conduct	Penitentiary.
1		1	.....	Petit larceny	Fine.
2		2	.....	Vagrancy	Penitentiary.
1		1	.....	Vagrancy	Jail.
3	May	3	.....	Petit larceny	Fine.
3		.....	3	Keeping disorderly house	Penitentiary.
1		1	.....	Keeping disorderly house	Jail.
1		.....	1	Petit larceny	Jail.
1		1	.....	Disorderly conduct	Fine
1		1	.....	Assault	Penitentiary
1		1	.....	Assault	Fine.
3		3	.....	Tramp	Penitentiary.
2		2	.....	Vagrancy	Adjudged.
1	June	1	.....	Petit larceny	Penitentiary.
3		3	.....	Disorderly conduct	Penitentiary.
1		1	.....	Disorderly conduct	Fine.
2		2	.....	Defrauding hotel keeper	Fine.
1		1	.....	Malicious mischief	Fine.
3		3	.....	Assault	Fine.
1		.....	1	Assault	Penitentiary.
9		9	.....	Vagrancy	Penitentiary.
1		1	.....	Trespass on cars	House of refuge.
1	July	1	.....	Disorderly conduct	Penitentiary.
2		2	.....	Assault	Penitentiary.
1		1	.....	Assault	Jail.
2		2	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Fine.
4		4	.....	Tramp	Penitentiary.
1		1	.....	Breach of the peace	Penitentiary.
2		2	.....	Vagrancy	Adjudged.
1	August	1	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	Penitentiary.
2		2	.....	Petit larceny	Penitentiary.

COUNTY OF WARREN.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
4	1884. November	4	.....	Intoxication	Fine.
4		4	.....	Intoxication	Suspended.
2		2	.....	Assault	Fine.
1		1	.....	Tramp	Penitentiary.
1		1	.....	Petit larceny	House of refuge.
1		.....	1	Vagrancy	Asylum.
3	December	3	.....	Assault	Fine.
2		2	.....	Intoxication	Suspended.

Table K. — County of Warren — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
1	1884. December..	1	.....	Vagrancy	Poor-house.
3		3	....	Vagrancy	Penitentiary.
1		1	.....	Vagrancy	Suspended.
1	1885. January	1	.....	Intoxication	Fine.
1		1	.....	Assault	Fine.
1		1	.....	Violating excise law	Fine.
1		1	.....	Petit larceny	House of refuge.
1	February.	1	.....	Intoxication	Suspended.
8		8	.....	Intoxication	Fine.
1		1	.....	Petit larceny	Suspended.
1	March	1	.....	Assault	Discharged.
1		1	.....	Assault	Fine.
1		1	.....	Intoxication	Fine.
1		1	.....	Truancy	Penitentiary.
1		1	.....	Vagrancy	House of refuge.
2		2	.....	Vagrancy	Poor-house.
1		1	.....	Vagrancy	Suspended.
2	April	2	.....	Disorderly conduct	Fine.
2		2	.....	Intoxication	Suspended.
1		1	.....	Intoxication	Fine.
3	May	3	.....	Intoxication	Discharged.
7		7	.....	Intoxication	Fine.
4		4	.....	Intoxication	Suspended.
1		1	.....	Vagrancy	Poor-house.
2	June	2	.....	Violating excise law	Fine.
4		4	.....	Intoxication	Suspended.
6		6	.....	Intoxication	Discharged.
10		10	.....	Intoxication	Fine.
1		1	.....	Petit larceny	House of refuge.
1		1	.....	Petit larceny	Penitentiary.
24	July	23	1	Intoxication	Discharged.
1		1	.....	Vagrancy	Penitentiary.
1		1	.....	Vagrancy	Adjudged.
14	August	14	.....	Intoxication	Discharged.
3		3	.....	Intoxication	Fine.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Petit larceny	Fine.
14		14	.....	Intoxication	Suspended.
1		1	.....	Vagrancy	Poor-house.
1	September.	1	.....	Tramp	Adjudged.
1		1	.....	Assault	Fine.
3	October	3	.....	Intoxication	Fine.
3		3	.....	Intoxication	Discharged.
1		1	.....	Assault	Jail.
1		1	.....	Petit larceny	House of refuge.

COUNTY OF WASHINGTON.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
2	1884. November..	2	.....	Intoxication	Fine.
1		1	.....	Intoxication	Jail.
1		1	.....	Assault	Jail.
13		13	.....	Vagrancy	Adjudged.
1		1	.....	Cruelty to animals	Fine.
1		1	.....	Petit larceny	Jail.
1		1	.....	Disorderly person	Fine.
12	December..	12	.....	Intoxication	Fine.
1		1	.....	Intoxication	Jail.
17		17	.....	Vagrancy	Adjudged.
2		2	.....	Vagrancy	Poor-house.
4		4	.....	Vagrancy	Jail.
1		1	.....	Assault	Jail.
14	1885. January	14	.....	Vagrancy	Adjudged.
4		4	.....	Vagrancy	Jail.
13		13	.....	Intoxication	Fine.
2		2	.....	Vagrancy	Poor-house.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Assault	Fine.
2		2	.....	Tramp	Penitentiary.

Table K.—County of Washington—(Continued).

Number of convictions.	Date of conviction.	Males.	Females.	Offense.	Sentence.
8	1885. February	8	.....	Vagrancy	Adjudged.
3		3	.....	Vagrancy	Poor-house.
1		1	.....	Assault	Fine.
4		4	.....	Intoxication	Fine.
16	March	16	.....	Intoxication	Fine.
22		22	.....	Vagrancy	Adjudged.
1		1	.....	Vagrancy	House of refuge
1		1	.....	Assault	Fine.
1		1	.....	Petit larceny	House of refuge
2	April	2	.....	Petit larceny	House of refuge.
3		3	.....	Intoxication	Fine.
1		1	.....	Vagrancy	Adjudged.
2		2	.....	Disorderly person	Adjudged.
1		1	.....	Assault	Fine.
2	May	2	.....	Intoxication	Fine.
1		1	.....	Intoxication	Penitentiary.
4		3	1	Disorderly person	Adjudged.
				COUNTY OF WAYNE.	
3	1884. December	3	.....	Vagrancy	Adjudged.
17		17	.....	Vagrancy	Jail.
2		2	.....	Vagrancy	Fine.
2		2	.....	Vagrancy	Poor-house.
1		1	.....	Vagrancy	Adjudged.
15		15	.....	Intoxication	Fine.
4		4	.....	Intoxication	Penitentiary.
2		2	.....	Assault	Penitentiary.
2		2	.....	Assault	Fine.
1		1	.....	Petit larceny	Penitentiary.
1		1	.....	Violating excise	Fine.
1		.....	1	Misdemeanor	Fine.
22	1885. January	22	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Fine.
7		7	.....	Vagrancy	Penitentiary.
2		2	.....	Vagrancy	Poor-house.
8		8	.....	Intoxication	Fine.
1		1	.....	Intoxication	Jail.
1	February	.....	1	Prostitution	Penitentiary.
6		6	.....	Vagrancy	Penitentiary.
4		4	.....	Vagrancy	Adjudged.
15		15	.....	Vagrancy	Jail.
1		1	.....	Vagrancy	Poor-house.
1		1	.....	Assault	Fine.
7		7	.....	Intoxication	Fine.
2		2	.....	Petit larceny	Fine.
1		1	.....	Petit larceny	Penitentiary.
1	March	1	.....	Assault	Penitentiary.
26		26	.....	Vagrancy	Jail.
5		5	.....	Vagrancy	Penitentiary.
3		3	.....	Vagrancy	Adjudged.
2		2	.....	Vagrancy	Poor-house.
1		1	.....	Intoxication	Fine.
7		7	.....	Intoxication	Jail.
1		1	.....	Intoxication	Penitentiary.
1		1	.....	Disorderly person	Adjudged.
2		2	.....	Disorderly person	Jail.
1		1	.....	Disorderly person	Fine.
8	April	8	.....	Vagrancy	Penitentiary.
15		15	.....	Vagrancy	Jail.
8		8	.....	Vagrancy	Adjudged.
1		1	.....	Disorderly conduct	House of refuge.
1		1	.....	Assault	Penitentiary.
1		1	.....	Disorderly person	Adjudged.
2		2	.....	Intoxication	Fine.
3		3	.....	Intoxication	Jail.
1		1	.....	Intoxication	Penitentiary.
1		1	.....	Petit larceny	Penitentiary.
5	May	5	.....	Intoxication	Fine.

Table K. — County of Wayne — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
2	May	2		Intoxication	Penitentiary.
4		4		Intoxication	Jail.
1		1		Intoxication	Poor-house.
3		3		Vagrancy	Penitentiary.
3		3		Vagrancy	Adjudged.
1		1		Assault	Fine.
1	June	1		Petit larceny.	Penitentiary.
1		1		Misdemeanor	Fine.
2		2		Intoxication	Jail.
10		10		Intoxication	Fine.
2		2		Intoxication	Penitentiary.
1		1		Assault	Jail.
4		4		Assault	Fine.
1		1		Disorderly person	Adjudged.
2		2		Vagrancy	Penitentiary.
1		1		Vagrancy	Adjudged.
2		2		Vagrancy	Jail.
1	July	1		Intoxication	Fine.
1		1		Intoxication	Poor-house.
3		3		Intoxication	Jail.
1		1		Intoxication	Penitentiary.
1		1		Petit larceny	Penitentiary.
1		1		Petit larceny.	Jail.
1		1		Defrauding hotel-keeper	Penitentiary.
2		2		Assault	Fine.
1	August		1	Keeping disorderly house	Penitentiary.
3		3		Vagrancy	Adjudged.
1		1		Vagrancy	Penitentiary.
7		7		Intoxication	Fine.
1		1		Intoxication	Penitentiary.
8		8		Breach of the peace	Penitentiary.
1	September.	1		Vagrancy	Adjudged.
2		2		Vagrancy.	Penitentiary.
6		6		Intoxication	Penitentiary.
12		12		Intoxication	Fine.
1		1		Assault	Jail.
2		2		Assault	Fine.
8	October	8		Intoxication	Fine.
2		2		Intoxication	Penitentiary.
4		4		Vagrancy	Adjudged.
3		3		Disorderly person	Penitentiary.
5		5		Disorderly person	Fine.
1		1		Petit larceny	Jail.
1		1		Petit larceny	Penitentiary.
1		1		Petit larceny	Fine.
7		7		Tramp	Penitentiary.

COUNTY OF WESTCHESTER.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	November	1		Violating penal code	Jail.
2		2		Disorderly person	Jail.
1		1		Petit larceny	Penitentiary.
1		1		Petit larceny	Jail.
1		1		Intoxication	Poor-house.
1		1		Violating excise law	Fine.
1		1		Affray	Jail.
5		5		Affray	Fine.
5		5		Assault	Fine.
1		1		Assault	Jail.
12		12		Intoxication	Fine.
33		33		Vagrancy	Penitentiary.
89		89		Vagrancy	Adjudged.
87		87		Vagrancy	Jail.
1			1	Vagrancy	Poor-house.
20	December.	20		Vagrancy	Penitentiary.
8		8		Vagrancy	Adjudged.
1		1		Vagrancy	Poor-house.
21		21		Vagrancy.	Jail.
2		2		Disorderly person	Adjudged.
3		3		Disorderly person	Jail.

Table K. — County of Westchester — (Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	December..	1	.....	Disorderly person	Fine.
1		1	......	Disorderly conduct	Suspended.
1		1	.. ..	Disorderly conduct	Fine.
1		1	......	Habitual criminal	Adjudged.
20		20	......	Intoxication	Fine.
10		10	.....	Intoxication	Penitentiary.
1		1	......	Assault	Fine.
4		4	......	Violating city ordinance	Fine.
1		1	......	Petit larceny	Fine.
1		1	......	Petit larceny	Penitentiary
	1885.				
3	January....	3	......	Intoxication	Jail.
1		1	......	Petit larceny	Penitentiary.
9		9	......	Vagrancy	Penitentiary.
6		6	......	Attempt to escape	Jail.
6		6	......	Disorderly person	Fine.
61		61	.....	Vagrancy	Jail.
97		95	2	Vagrancy	Adjudged.
2	February...	2	.... .	Malicious mischief	Fine.
1		1	....	Violating city ordinance	Fine.
1		1	......	Misdemeanor	Jail.
7		7	.....	Petit larceny	Fine.
3		3	.. ..	Assault	Fine.
17		17	.. ..	Intoxication	Jail.
5		5	.. ..	Intoxication	Fine.
69		69	......	Vagrancy	Adjudged.
112		112	......	Vagrancy	Jail.
1	March.....	1	.. ...	Disorderly conduct	Jail.
31		31	......	Intoxication	Jail.
8		8	......	Intoxication	Fine.
2		2	.. .	Intoxication	Penitentiary.
1		1	.....	Cruelty to animals	Fine.
1		1	.. ..	Violating excise law	Fine.
7		7	......	Assault	Fine.
2		2	......	Assault	Suspended.
3		3	......	Petit larceny	Fine.
2		2	......	Petit larceny	Jail.
2		2	.. ..	Disorderly person	Jail.
1		1	......	Disorderly person	Penitentiary.
2		2	......	Disorderly person	Fine.
89		89	.. ...	Vagrancy	Jail.
74		74	. ..	Vagrancy	Adjudged.
2	April......	2	......	Violating penal code	Fine.
1		1	......	Indecent language	Penitentiary.
1		1	......	Escape from prison	Jail.
3		3	......	Petit larceny	Fine.
1		1	......	Petit larceny	Jail.
1		1	......	Petit larceny	Penitentiary.
13		13	......	Assault	Fine.
3		3	......	Assault	Penitentiary.
2		2	......	Assault	Jail.
32		32	... ..	Drunk and disorderly	Fine.
24		24	.....	Drunk and disorderly	Jail.
4		4	......	Drunk and disorderly	Penitentiary.
51		51	.....	Vagrancy	Adjudged.
43		43	... ..	Vagrancy	Jail.
9		9	......	Vagrancy	Penitentiary.
11	June.......	11	......	Disorderly conduct	Fine.
8		8	. ....	Disorderly conduct	Jail.
2		2	......	Disorderly conduct	Penitentiary.
1		1	......	Disorderly person	Jail.
31		30	1	Vagrancy	Adjudged.
4		3	1	Vagrancy	Jail.
2		2	.. ..	Vagrancy	Poor-house.
4		4	.. ..	Vagrancy	Penitentiary.
1		1	......	Gambling	Fine.
6		6	......	Intoxication	Jail.
7		7	......	Intoxication	Fine.
2		2	... ..	Affray	Fine.
1		1	.. ...	Assault	Fine.

Table K.—County of Westchester—(Continued).

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1885.				
1	June	1		Assault	Penitentiary.
1		1		Assault	Jail.
1		1		Petit larceny	Jail.
3	July	3		Malicious mischief	Fine.
3		3		Petit larceny	Penitentiary.
2		1	1	Petit larceny	Jail.
5		5		Vagrancy	Jail.
4		4		Vagrancy	Penitentiary.
3		3		Vagrancy	Adjudged.
1			1	Violating excise law	Fine.
1			1	Intoxication	Jail.
1		1		Drunk and disorderly	House of refuge.
7		7		Drunk and disorderly	Fine.
8		8		Drunk and disorderly	Penitentiary.
2		2		Drunk and disorderly	Adjudged.
18		18		Drunk and disorderly	Jail.
27		27		Drunk and disorderly	Fine.
6		6		Assault	Fine.
8		4	4	Assault	Jail.
3		3		Assault	Penitentiary.
1	August	1		Vagrancy	Penitentiary.
10		9	1	Disorderly person	Jail.
7		7		Disorderly person	Fine.
1		1		Disorderly person	Suspended.
14		13	1	Vagrancy	Adjudged.
3		3		Vagrancy	Penitentiary.
4		4		Vagrancy	Poor-house.
1		1		Vagrancy	Jail.
1			1	Violating excise law	Jail.
3		3		Intoxication	Fine.
5		5		Intoxication	Jail.
1		1		Misdemeanor	House of refuge.
2		2		Misdemeanor	Penitentiary.
4		4		Assault	Fine.
2		2		Assault	Jail.
4		3	1	Disorderly conduct	Jail.
1			1	Disorderly conduct	Jail.
1		1		Disorderly conduct	Adjudged.
1		1		Disorderly conduct	Fine.
1		1		Disorderly conduct	Protectorate.
1		1		Cruelty to animals	Fine.
1		1		Cruelty to animals	Jail.
2		2		Tramp	Penitentiary.
1		1		Petit larceny	Penitentiary.
8	September	8		Vagrant	Penitentiary.
8		6	2	Vagrant	Jail.
6		5	1	Vagrant	Adjudged.
1		1		Vagrant	Fine.
9		8	1	Intoxication	Penitentiary.
25		25		Intoxication	Fine.
8		8		Intoxication	Jail.
1		1		Intoxication	House of refuge.
5		5		Assault	Penitentiary.
3		2	1	Assault	Fine.
1		1		Assault	Jail.
1		1		Assault	Poor-house.
1		1		Resisting an officer	Fine.
3		3		Petit larceny	Jail.
2		2		Petit larceny	Fine.
4		4		Trespass on cars	Penitentiary.
2		2		Disorderly person	Fine.
3		3		Disorderly person	Jail.
1		1		Disorderly person	Adjudged.
1		1		Disorderly person	House of refuge.
1		1		Affray	Fine.
2		2		Tramp	Penitentiary.
1		1		Malicious mischief	Jail.

Table K. — (Continued).

COUNTY OF WYOMING.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
1	December	1	......	Violating excise law	Fine.
1		1	......	Petit larceny	Bonded.
1		1	......	Petit larceny	Jail.
5		5	......	Vagrancy	Jail.
1		1	......	Intoxication	Jail.
	1885.				
1	May	1	......	Vagrancy	Poor-house.
1		1	......	Intoxication	Fine.
3		3	......	Intoxication	Jail.
1		1	......	Petit larceny	Penitentiary.
1	June	1	......	Petit larceny	Jail.
1		1	......	Petit larceny	Penitentiary.
8		8	......	Intoxication	Jail.
3		3	......	Intoxication	Penitentiary.
3		3	......	Intoxication	Fine.
2	July	2	......	Intoxication	Penitentiary.
7		7	......	Intoxication	Jail.
1		1	......	Intoxication	Fine.
2		2	......	Assault	Fine.
1		1	......	Assault	Penitentiary.
1		1	......	Tramp	Penitentiary.
1	August	1	......	Intoxication	Jail.
1	September	1	......	Intoxication	Jail.
2		2	......	Intoxication	Penitentiary.
8		8	......	Intoxication	Fine.
1		1	......	Disorderly person	Adjudged.
1		1	......	Tramp	Penitentiary.
5		5	......	Intoxication	Jail.

COUNTY OF YATES.

Number of convictions.	When convicted.	Males.	Females.	Offense.	Sentence.
	1884.				
41	November	41	......	Vagrancy	Adjudged.
2		2	......	Intoxication	Fine.
39	December	39	......	Vagrancy	Adjudged.
5		5	......	Intoxication	Fine.
1		1	......	Intoxication	House of refuge.
1		1	......	Violating game law	Fine.
	1885.				
52	January	52	......	Vagrancy	Adjudged.
1		1	......	Vagrancy	Penitentiary.
1		1	......	Malicious mischief	Fine.
8		8	......	Intoxication	Fine.
11	February	11	......	Vagrancy	Adjudged.
7		7	......	Intoxication	Fine.
2		......	2	Cruelty to persons	Fine.
43	March	43	......	Vagrancy	Adjudged.
17		17	......	Intoxication	Fine.
2		2	......	Petit larceny	House of refuge.
1		1	......	Assault	Jail.
1	April	......	1	Prostitution	House of refuge.
23		23	......	Vagrancy	Adjudged.
1		1	......	Intoxication	Fine.
1		1	......	Petit larceny	Jail.
2		2	......	Assault	Fine.
1	May	1	......	Disorderly person	Adjudged.
1		1	......	Intoxication	Jail.
2		2	......	Intoxication	Fine.
12	June	12	......	Intoxication	Fine.
1		1	......	Disorderly conduct	Fine.
1		1	......	Assault	Jail.
1		1	......	Vagrancy	Adjudged.
13	July	13	......	Intoxication	Fine.
1		1	......	Violating Sabbath ordina'ce	Fine.
2		2	......	Assault	Fine.
11	October	11	......	Intoxication	Fine.
1		1	......	Assault	Fine.

TABLE L.

Abstract of Table K, in which the whole number of convictions of special sessions in each county during the year is given, the number of males and females, and the number of offenses of each description.

	Males.	Females.	Abandonment.	Assault.	Attempt at rescue.	Bastardy.	Breach of the peace.	Cruelty to animals.	Cruelty to children.	Contempt of court.	Constructive larceny.	Carrying concealed weapons.	Disorderly conduct.	Disorderly persons.	Defrauding hotel keeper.	Disposing mortgaged property.
Broome	134	7	....	11	....	....	....	....	....	....	....	....	....	62	....	....
Cortland	174	4	....	11	....	....	....	2	....	....	....	....	....	2	2	....
Chenango	48	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....
Chautauqua	230	11	....	34	....	....	1	....	....	1	1	....	10	4	....	....
Cattaraugus	73	1	....	8	....	....	....	1	....	....	1	....	....	2	....	....
Cayuga	1,338	88	....	62	1	....	171	1	....	1	....	1	7	35	....	1
Chemung	264	12	....	5	....	....	4	....	....	....	....	1	....	16	....	....
Columbia	148	7	....	18	....	....	....	....	....	....	....	....	....	2	....	....
Dutchess	386	9	....	40	....	....	8	2	....	....	....	....	4	22	....	....
Delaware	27	....	....	2	....	....	....	....	....	....	....	....	....	2	....	....
Essex	11	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....
Erie	3,760	1,058	....	275	1	....	....	5	1	....	....	1	994	197	9	....
Franklin	299	1	....	23	....	....	9	1	....	....	....	....	1	4	....	....
Fulton	307	....	....	11	....	....	1	....	....	....	....	....	....	114	....	....
Genesee	79	....	....	10	....	....	....	....	....	....	....	....	....	3	....	....
Herkimer	323	1	....	14	....	....	1	....	....	....	....	....	....	3	....	....
Jefferson	250	4	....	34	....	....	7	....	....	....	2	....	....	33	1	....
Kings	19,121	2,681	1	1,493	4	4	3	193	66	2	1	....	472	437	....	....
Montgomery	450	5	....	20	....	....	....	....	....	....	....	....	4	20	....	....
Madison	323	4	....	28	1	....	....	3	....	....	....	....	1	2	1	....
Monroe	564	11	....	179	....	1	....	7	1	....	....	....	....	16	....	....
Niagara	443	12	....	40	....	....	1	....	....	....	....	....	1	39	....	....
Ontario	323	6	....	35	1	....	15	2	....	....	....	....	1	81	....	....
Oswego	95	8	....	39	....	....	....	....	....	....	....	....	....	2	....	....
Onondaga	1,741	189	....	128	....	....	251	4	....	....	....	....	11	26	1	....
Oneida	817	62	....	81	1	....	....	1	....	....	....	....	1	61	....	....
Otsego	116	5	....	20	....	....	....	2	....	....	....	....	....	8	....	....
Orleans	474	1	....	21	....	....	....	....	....	....	....	....	....	9	....	....
Orange	255	10	....	21	....	....	5	6	....	1	....	1	2	12	2	....
Putnam	81	4	....	10	....	....	1	....	....	....	....	....	1	7	....	....

Queens	936	56	.....	145	.....	1	14	6	.....	1	1	1	66	78	.....	.....
Rensselaer	2,556	320	.....	455	.....	.....	7	.....	.....	1	.....	.....	462	1,150	.....	.....
Saratoga	299	2	.....	27	.....	.....	1	.....	.....	.....	.....	.....	6	7	.....	.....
Schenectady	36	.....	.....	17	.....	.....	4	.....	.....	.....	.....	.....	.....	2	.....	.....
Schuyler	23	.....	1	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Schoharie	22	.....	.....	7	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Seneca	146	14	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	3	10	1	.....
St. Lawrence	115	4	.....	34	.....	.....	5	.....	.....	.....	.....	.....	2	6	1	.....
Steuben	236	2	.....	17	.....	.....	2	2	.....	.....	.....	.....	3	5	1	.....
Suffolk	92	.....	.....	16	.....	.....	.....	1	.....	.....	.....	.....	1	9	.....	.....
Tioga	232	1	.....	21	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....
Tompkins	116	3	.....	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	.....	.....
Ulster	74	5	.....	13	.....	.....	1	.....	.....	.....	.....	.....	14	.....	2	.....
Warren	147	2	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....
Washington	166	1	.....	6	.....	.....	.....	1	.....	.....	.....	.....	.....	7	.....	.....
Wayne	352	3	.....	18	.....	.....	8	.....	.....	.....	.....	.....	1	14	1	.....
Westchester	1,485	22	.....	67	.....	.....	.....	3	.....	.....	.....	.....	161	122	.....	.....
Wyoming	64	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Yates	306	3	.....	7	.....	.....	.....	.....	2	.....	.....	.....	2	1	.....	.....
Total	40,057	4,639	2	3,574	9	6	516	243	70	7	6	5	2,235	2,649	22	1

Table L. — (Continued).

	Forgery.	False pretenses.	Gambling.	Habitual drunkard.	Indecent exposure.	Indecent language.	Intoxication.	Keeping disorderly house.	Keeping house of prostitution.	Keeping gambling house.	Lottery.	Libel.	Malicious mischief.	Misdemeanor.	Murder.	Petit larceny.
Broome	....	....	....	1	....	....	47	....	....	....	....	....	....	....	....	13
Cortland	....	....	....	....	....	....	107	....	....	....	....	....	....	....	....	6
Chenango	....	....	....	....	....	....	33	....	....	....	....	....	....	1	....	3
Chautauqua	....	....	....	....	6	1	65	....	....	....	....	....	2	....	....	22
Cattaraugus	....	....	1	....	....	....	25	....	....	....	....	....	3	....	....	15
Cayuga	....	....	1	....	7	18	940	....	6	....	....	....	4	41	....	60
Chemung	....	....	....	....	....	....	212	....	....	....	....	....	....	1	....	17
Columbia	....	....	....	....	....	....	68	....	....	....	....	....	2	2	....	15
Dutchess	....	....	....	....	....	....	217	1	....	....	....	....	1	....	....	33
Delaware	....	....	....	....	1	....	8	....	....	....	....	....	....	....	....	4
Essex	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....	3
Erie	....	....	1	....	8	....	1,562	....	1	4	3	....	41	12	....	468
Franklin	....	....	....	....	1	....	193	....	....	....	....	....	1	....	....	13
Fulton	1	....	....	....	....	....	95	....	....	....	....	....	....	....	....	5
Genesee	....	....	....	....	....	....	22	....	....	....	....	....	....	5	....	4
Herkimer	....	....	....	....	....	....	30	....	....	1	....	....	....	1	1	10
Jefferson	....	....	....	....	1	....	138	....	....	....	....	....	....	2	....	14
Kings	....	....	2	117	22	....	12,802	15	....	....	....	1	113	650	....	1,639
Montgomery	....	....	....	....	....	....	119	2	1	....	....	....	3	27	....	23
Madison	....	....	....	....	....	....	177	....	....	....	....	....	1	2	....	25
Monroe	....	....	1	....	....	....	46	....	1	....	....	....	3	31	....	162
Niagara	....	....	....	....	1	....	220	....	....	....	....	....	5	....	....	26
Ontario	....	....	....	....	1	....	23	....	4	1	....	....	....	8	....	15
Oswego	....	....	....	....	....	7	37	2	....	....	....	....	....	....	....	6
Onondaga	....	1	....	....	5	1	837	12	....	2	....	....	4	51	....	65
Oneida	....	....	3	....	....	....	483	2	....	....	....	....	3	34	....	40
Otsego	....	1	1	....	....	....	54	1	....	....	....	....	....	1	....	22
Orleans	....	....	....	....	3	....	156	....	....	....	....	....	....	4	....	....
Orange	....	....	....	....	....	2	86	....	....	....	....	....	3	12	....	34
Putnam	....	....	....	....	....	....	36	....	....	....	....	....	2	....	....	6
Queens	....	....	....	....	5	....	217	1	....	....	....	....	15	23	....	69
Rensselaer	....	1	....	....	....	....	475	....	....	....	....	....	11	67	....	57
Saratoga	....	....	....	....	....	....	165	....	....	....	....	....	....	1	....	30
Schenectady	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	10
Schuyler	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....	3

Schoharie							7									4
Seneca		1					65						2	2		13
St. Lawrence							40							5		19
Steuben							113						5	2		18
Suffolk							10							4		16
Tioga							161						1			5
Tompkins							69							1		3
Ulster							2	4					1	1		13
Warren							109									8
Washington							55									5
Wayne							118	1						2		11
Westchester			1			1	273						6	12		27
Wyoming							49									5
Yates							80						1			3
Total	1	4	12	118	61	30	20,846	41	13	8	3	1	233	1,005	1	3,087

Table L. — (Continued).

	Prize fighting.	Prostitution.	Resisting arrest.	Robbery.	Selling obscene literature.	Tramps.	Trespass.	Trespass on cars.	Truancy.	Vagrancy.	Violation election laws.	Violation excise laws.	Violation game laws.	Violation penal code.	Violation ordinance.
Broome		1			1	2		2		1					
Cortland						1		2		45					
Chenango										7		2			
Chautauqua						1				92		1			
Cattaraugus						1		1		14		2			
Cayuga	1	11				3		7		22		18			7
Chemung								1		13			1		5
Columbia						2				45			1		
Dutchess						3				68	1				
Delaware							1			2		6	1		
Essex										3			1		
Erie						4			10	1,169		39	2	1	10
Franklin							1			53					
Fulton										78		2			
Genesee						13		5		16		1			
Herkimer						10		6		247					
Jefferson										22					
Kings						1	1	2	105	1,325		27		9	2,295
Montgomery						15		30		182				6	3
Madison						12	1	1		72					
Monroe						18	1	2		95		5	4		2
Niagara						5				116		1			
Ontario						6		2		122		12			
Oswego		2	1			1				3		3			
Onondaga		100	2	2		13		26	1	328		10			49
Oneida						10		1	5	116			1		35
Otsego										11					
Orleans						2				273		1	6		
Orange						2	2	7		53		14			
Putnam						4	1			15		2			
Queens							6		1	332		2	1	2	5
Rensselaer			1					5		156					28
Saratoga								2		60		2			
Schenectady												2			
Schuy						4		2		1		3			

Schoharie										3					
Seneca		4								52					
St. Lawrence		2								2		3			
Steuben								14		51		2			
Suffolk					3		3			25		7			
Tioga			1					1		40					1
Tompkins							1			7					
Ulster		1				7		1		18		1			
Warren						2			1	14		3			
Washington						2				91					
Wayne		1				7				172		1			
Westchester			1			4		4		814		4		3	5
Wyoming						2				6		1			
Yates		1								211			1		
Total	1	123	6	2	4	157	18	124	123	6,663	1	177	19	21	2,445

TABLE M.

Giving the ages, nativity and social relations of persons convicted in courts of special sessions of the several cities, as reported to the office of the Secretary of State by the sheriffs of the respective counties for the year ending October 31, 1885.

ALBANY CITY.

	Petit larceny.	Assault and battery.	Vagrancy.	Drunk and disorderly	Disorderly conduct.	Malicious mischief.	Intoxication.	Breach of peace.	Misdemeanor.	Violating city ordinance	Affray.	Disorderly house.	Total.
Number reported	159	140	188	5	32	10	1,196	280	84	14	4	1	2,113
Males	137	122	142	5	29	9	940	228	75	10	4	.....	1,701
Females	22	18	46	.....	3	1	256	52	9	4	.....	1	412
Under 15 years of age	8	1	.....	.....	1	.....	.....	2	4	.....	.....	.....	16
From 15 to 21 years of age	45	30	27	1	3	4	87	56	22	1	1	.....	277
From 21 to 25 years of age	36	47	46	3	17	5	237	84	29	5	2	.....	511
From 25 to 30 years of age	30	32	41	1	10	1	299	58	20	3	1	1	497
From 30 to 40 years of age	20	18	41	.....	1	.....	262	47	7	3	.....	.....	399
From 40 to 50 years of age	10	11	22	.....	.....	.....	188	19	2	2	.....	.....	254
From 50 to 60 years of age	.....	1	9	.....	.....	.....	97	5	.....	.....	.....	.....	112
Over 60 years of age	.....	.....	2	.....	.....	.....	23	2	.....	.....	.....	.....	27
Unknown	10	.....	.....	.....	.....	.....	3	7	.....	.....	.....	.....	20
Married	46	69	36	1	5	1	502	145	32	3	1	1	842
Married and having children	.....	.....	2	.....	.....	.....	55	.....	2	.....	.....	.....	59
Single	103	71	150	4	24	9	632	133	50	11	3	.....	1,190
Unknown	10	.....	.....	.....	3	.....	7	2	.....	.....	.....	.....	22
Natives of United States	97	69	84	1	26	7	545	125	48	6	3	1	1,012
Natives of Ireland	29	41	52	3	1	1	360	85	21	5	1	.....	599
Natives of Germany	14	22	23	1	2	1	127	38	9	2	.....	.....	239
Natives of England	5	3	10	.....	2	1	77	11	3	.....	.....	.....	112
Natives of Scotland	1	3	1	.....	.....	.....	39	9	.....	1	.....	.....	54
Natives of France	1	1	4	.....	.....	.....	19	11	1	.....	.....	.....	37
Natives of Canada	1	1	1	.....	.....	.....	25	1	2	.....	.....	.....	31
Other foreign countries	.....	.....	1	.....	.....	.....	4	.....	.....	.....	.....	.....	5
Unknown	11	.....	12	.....	1	.....	.....	.....	.....	.....	.....	.....	24
Can read and write	139	138	165	5	30	10	1,024	256	79	13	3	1	1,863
Can read only	.....	1	1	.....	.....	.....	26	4	.....	.....	.....	.....	32

Cannot read or write	.....	10	1	10	.....	.....	.....	145	16	5	1	1	.....	189
Unknown	.....	10	.....	12	.....	2	.....	1	4	.....	.....	.....	.....	29
Had religious instruction	.....	147	139	171	5	31	10	1,156	275	82	14	4	1	2,035
Never had religious instruction	.....	2	1	5	.....	.....	.....	31	5	2	.....	.....	.....	46
Unknown	.....	10	.....	12	.....	1	.....	9	.....	.....	.....	.....	.....	32
Parents living	.....	100	96	106	3	26	10	610	171	57	10	4	.....	1,193
Father living	.....	4	3	.....	.....	.....	.....	18	16	1	.....	.....	.....	42
Mother living	.....	9	.....	.....	.....	.....	.....	17	4	1	.....	.....	.....	31
Parents dead	.....	36	41	70	2	5	.....	550	89	25	4	.....	1	823
Unknown	.....	10	.....	12	.....	1	.....	1	.....	.....	.....	.....	.....	24
Before convicted	.....	23	43	52	1	1	2	280	50	38	2	1	.....	493
Never before convicted	.....	124	97	124	4	25	8	915	225	46	12	3	1	1,584
Unknown	.....	12	.....	12	.....	6	.....	1	5	.....	.....	.....	.....	36
Temperate	.....	146	130	143	5	27	10	898	259	83	13	4	.....	1,718
Intemperate	.....	3	8	33	.....	.....	.....	298	21	1	1	.....	1	366
Unknown	.....	10	2	12	.....	5	.....	.....	.....	.....	.....	.....	.....	29

Table M.— (Continued).

BINGHAMTON, CITY

	Drunk and disorderly	Larceny.	Assault and battery.	Tramp.	Rescuing prisoner.	Defaulting witness.	Violating city ordinance.	Forgery.	Deserting family.	Trespass.	Violating excise law.	Prostitution.	Burglary.	Disturbing religious meeting.	Violating military code.	Cruelty to animals.	Perjury.	Selling mortgaged property.	Obscene literature.	Keeping disorderly house.	Renting disorderly house.	Resisting officer.	Gambling.	Vagrancy.	Arson.	Total.
Number reported	583	50	60	98	1	1	37	2	5	4	3	1	5	2	1	1	1	1	1	11	1	1	3	2	1	876
Males	558	45	60	98	1	1	37	2	5	4	3	...	5	2	1	1	1	1	1	8	1	1	2	2	1	842
Females	25	5	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	3	...	...	...	...	...	34
Under 15 years of age	17	5	2	4	...	1	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	28
From 15 to 21 years of age	90	13	20	1	...	...	9	...	...	3	1	1	1	1	...	1	...	...	...	7	1	...	...	...	...	148
From 21 to 25 years of age	98	7	17	16	...	...	10	...	3	...	2	...	...	...	...	...	...	...	...	2	1	1	2	1	1	170
From 25 to 30 years of age	180	6	8	12	1	...	4	1	1	...	...	...	2	...	1	...	...	...	...	...	...	...	1	1	...	222
From 30 to 40 years of age	69	6	8	9	...	...	4	1	1	1	...	...	2	1	...	...	...	...	1	...	...	...	...		...	104
From 40 to 50 years of age	81	7	3	28	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	126
From 50 to 60 years of age	39	1	2	29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	59
Over 60 years of age	9	...		...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	19
Married	243	21	28	47		...	17	1	...	2	2	...	4	...	1	...	...	...	1	4	...	1	...	...	1	374
Married and having children	155	13	15	20	.	...	11	...	3	1	1	...	...	...	...	1	...	...	...	1	1	...	3	...	...	225
Single	185	16	17	31	1	1	9	1	1	1	...	1	1	2	...	...	1	1	...	6	...	...	...	2	...	277
Natives of United States	526	25	40	55	...	1	30	2	1	1	...	1	3	1	1	...	1	1	1	7	...	...	2	1	1	701
Natives of Ireland	44	4	7	20	1	...	5	...	3	3	1	...	2	1	...	1	...	...	...	4	1	1	1	1	...	100
Natives of Germany	10	15	12	6	...	...	2	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48
Natives of England	...	5	1	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
Natives of Scotland	1	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Natives of France	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Natives of Canada	2	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
Can read and write	545	49	55	58	1	1	35	2	5	4	3	1	5	1	1	1	1	1	1	11	1	1	3	2	1	789
Can read only	7	...	1	...	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
Cannot read or write	81	...	4	5	23	...	2	...		...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	63
Had religious instruction	566	50	57	82	1	1	37	2	5	4	3	1	4	1	1	1	1	1	1	11	1	1	3	2	1	838
Never had religious instr'n	17	...	3	16	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	38
Parents living	145	21	24	10	1	1	17	2	5	4	2	...	4	...	1	...	...	1	1	5	1	...	2	2	1	250

Father living.	52	2	7	9	.	....	1	..	..	..	..	.	...	.....	.....	....	....	......	...	...	......	...	....	...	...	71
Mother living	79	8	9	36	....	...	9	...	...	..	....	...	1	....	......	1	..	......	....	5	......	....	1	....	....	147
Parents dead	307	19	20	43	...	....	10	.		....	1	1	...	2	....	.	1	......	.	3	....	1	...	....	....	408
Before convicted	303	17	22	61	..	...	17	..	....	.	2	...	...	....	1	...	...	....	..	1	....	..	1	...	..	425
Never before convicted	280	33	38	37	1	1	20	2	5	4	1	1	5	2	...	1	1	1	1	10	1	1	2	2	1	450
Temperate	142	15	15	30	....	1	14	2	..	2	1	....	1	1	......	1	1	1	1	4	1	...	1	...	....	234
Intemperate	441	35	45	68	1	....	23	..	5	2	2	1	4	1	1	....	....	......	...	7	......	1	2	2	1	642

Table M.—(Continued).

AUBURN CITY.

	Intoxication.	Breach of the peace.	Violating city ordinance.	Assault and battery.	Violating excise law.	Vagrancy.	Indecent language.	Resisting officer.	Petit larceny.	Assault.	Bastardy.	Misdemeanor.	Contempt.	Burglary.	Abandonment.	Default.	Malicious mischief.	Defrauding boarding house keeper.	Total.
Number reported	222	13	34	7	4	1	1	1	6	3	2	5	1	1	1	1	1	1	305
Males	208	13	29	7	4	....	1	1	6	3	2	5	....	1	1	1	1	1	284
Females	14	....	5	....	....	1	....	....	....	....	....	....	1	....	....	....	....	....	21
Under 15 years of age	2	3	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8
From 15 to 21 years of age	16	3	5	1	....	....	1	....	3	....	....	....	....	....	....	....	1	....	30
From 21 to 25 years of age	27	2	11	....	....	1	....	....	1	1	....	1	....	....	....	1	....	....	45
From 25 to 30 years of age	44	3	10	3	....	....	....	....	....	1	1	1	....	....	1	....	....	....	64
From 30 to 40 years of age	52	2	3	1	1	....	....	1	1	....	1	1	....	....	....	....	....	1	64
From 40 to 50 years of age	47	....	2	1	1	....	....	....	1	1	....	2	1	1	....	....	....	....	57
From 50 to 60 years of age	22	....	1	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	25
Over 60 years of age	11	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	11
Unknown	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Married	96	7	10	2	3	....	....	1	2	2	2	2	1	1	1	....	....	....	130
Single	125	6	24	5	1	1	1	....	4	1	....	3	....	....	....	1	1	1	174
Unknown	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Natives of United States	154	10	26	5	2	....	1	....	5	3	2	4	1	....	....	1	....	1	215
Natives of Ireland	56	1	6	1	1	....	....	1	1	....	....	1	....	....	1	....	1	....	70
Natives of Germany	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Natives of England	6	....	2	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	9
Natives of Scotland	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Natives of France	....	....	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	2
Natives of Canada	1	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	3
Other foreign countries	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Unknown	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Can read and write	190	11	26	7	4	1	1	1	5	3	2	4	1	1	1	1	1	1	261
Can read only	1	....	5	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	7
Cannot read or write	30	2	3	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	36
Unknown	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Had religious instruction	208	12	33	6	4	1	1	1	6	3	2	3	1	1	1	1	1	1	286
Never had religious instruction	13	1	1	1	....	....	....	....	....	....	....	2	....	....	....	....	....	....	18
Unknown	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1

Parents living	49	8	12	2	1	....	....	....	1	....	1	2	....	....	....	....	....	....	76
Father living	18	2	2	1	....	1	....	....	....	1	1	....	....	....	1	....	....	....	27
Mother living	50	2	14	2	1	....	1	....	2	....	....	2	....	1	....	....	1	1	77
Parents dead	104	1	6	2	2	....	....	1	3	2	....	1	1	....	....	1	....	....	124
Unknown	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Before convicted	172	9	27	5	2	1	....	1	5	2	....	4	....	....	1	1	1	....	231
Never before convicted	49	4	7	2	2	....	1	....	1	1	2	1	1	1	....	....	....	1	73
Unknown	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Temperate	24	1	8	2	3	1	....	....	1	....	1	....	1	1	....	....	....	1	44
Intemperate	197	12	26	5	1	....	1	1	5	3	1	5	....	....	1	1	1	....	260
Unknown	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1

Table M. — (Continued).

DUNKIRK CITY.

	Assault.	Disorderly conduct.	False pretense.	Intoxication.	Petit larceny.	Vagrancy.	Assault and battery.	Drunk and dis'derly.	Misdemeanor.	Total.
Number reported	7	4	1	12	3	14	2	1	2	46
Males	7	3	1	12	3	14	2	1	2	45
Females	....	1	.....	.....	....	....	.....	.....	.....	1
From 15 to 21 years of age	....	1	.....	.....	1	....	.....	.....	.....	2
From 21 to 25 years of age	3	2	.....	2	....	1	1	.....	2	11
From 25 to 30 years of age	4	1	....	6	2	4	1	.....	.....	18
From 30 to 40 years of age	..	.....	1	2	....	7	.....	1	..	11
From 40 to 50 years of age	.	....	.....	1	.....	2	.....	....	.....	3
From 50 to 60 years of age	.	....	....	1	.....	.....	.....	..	.....	1
Married	1	1	1	7	1	1	.....	.....	.....	12
Married and having children	2	....	.....	....	....	.....	.....	....	.....	2
Single	2	3	....	5	2	13	2	1	....	28
Unknown	2	.....	.....	....	.....	.....	.....	.....	2	4
Natives of United States	3	2	1	4	3	12	2	1	2	30
Natives of Ireland	1	1	.....	6	....	1	.....	.....	....	9
Natives of Germany	1	1	.....	1	.....	1	.....	.....	.....	4
Natives of England	.....	.....	.....	1	.....	.....	.....	.....	....	1
Other foreign countries	2	....	....	.....	.....	.....	.....	.....	.....	2
Can read and write	5	4	1	6	3	9	2	1	2	33
Cannot read or write	2	.....	....	3	.....	5	.....	.....	.....	10
Unknown	....	.....	.....	3	.....	.....	.....	.....	.....	3
Had religious instruction	5	4	1	12	3	7	2	1	2	37
Never had religious instruc'n	2	.....	.....	.....	.....	2	.....	.....	.....	4
Unknown	..	.....	.....	.....	.....	5	.....	.....	.....	5
Parents living	2	4	.....	7	1	.....	....	.....	.....	14
Father living	1	.....	....	....	.....	.....	.....	.....	.....	1
Mother living	2	....	1	.....	.....	.....	.....	.....	.....	3
Parents dead	2	.....	.....	5	2	....	.....	.....	.....	9
Unknown	..	....	.....	.....	.....	14	2	1	2	19
Before convicted	3	1	....	2	1	.	.....	.....	.....	7
Never before convicted	4	3	1	10	2	.....	....	1	2	23
Unknown	....	..	.....	.....	.....	14	2	.....	..	16
Temperate	2	3	1	..	3	.....	..	....	....	9
Intemperate	5	1	...	12	.	.....	2	1	2	23
Unknown	....	....	.....	....	.....	14	....	.....	.....	14

ELMIRA CITY.

	Assault.	Assault and battery	Breach of the peace.	Drunk and dis'derly.	Disorderly conduct.	Intoxication.	Misdemeanor.	Petit larceny.	Vagrancy.	Violating ordinance.	Total.
Number reported	25	3	9	44	22	572	13	65	17	29	799
Males	24	2	6	38	10	528	13	63	14	28	726
Females	1	1	3	6	12	44	.	2	3	1	73
Under 15 years of age	5	...	..	.	2	......	1	12	3	5	28
From 15 to 21 years of age	4	1	2	11	3	38	2	12	2	10	85
From 21 to 25 years of age	3	...	2	10	6	105	1	4	....	5	136
From 25 to 30 years of age	3	..	1	5	4	73	6	12	3	....	107
From 30 to 40 years of age	6	.	4	6	5	163	2	13	1	3	203
From 40 to 50 years of age	4	1	..	5	1	100	..	7	3	1	122
From 50 to 60 years of age	...	1		2	1	63	1	2	2	4	76
Over 60 years of age	..	..	.	4	...	30	..	3	3	1	41
Unknown	....	...	...	1	..	....	...	..	..	...	1

Table M.— Elmira city — (Continued).

	Assault.	Assault and battery.	Breach of the peace.	Drunk and dis'derly.	Disorderly conduct.	Intoxication.	Misdemeanor.	Petit larceny.	Vagrancy.	Violating ordinance.	Total.
Married	12	3	6	15	8	204	2	31	6	7	294
Single	13	...	3	29	14	368	11	34	11	22	505
Natives of United States	21	3	9	38	20	431	11	60	14	28	635
Natives of Ireland	4	...	...	3	...	87	...	3	3	1	101
Natives of Germany	...	...	...	...	...	17	1	1	...	...	19
Natives of England	...	...	...	...	2	18	...	...	...	...	20
Natives of Scotland	...	...	...	2	...	6	...	1	...	...	9
Natives of France	...	...	...	...	...	1	...	...	...	...	1
Natives of Canada	...	...	...	...	...	1	...	...	...	...	1
Other foreign countries	...	...	...	1	...	11	1	...	...	...	13
Can read and write	22	3	9	42	21	517	13	56	15	27	725
Can read only	...	...	...	...	1	8	...	2	...	1	12
Cannot read or write	3		...	2	...	47	...	7	2	1	62
Unknown	25	3	9	44	22	572	13	65	17	29	799
Parents living	13	1	1	13	7	157	4	24	3	18	241
Father living	2	1	1	6	6	52	4	10	3	2	87
Mother living	5	...	2	9	1	111	5	14	2	3	152
Parents dead	5	1	5	15	8	245	...	17	9	6	311
Unknown	...		...	1	...	7	...	...	...	...	8
Before convicted	14	2	3	33	13	325	2	45	9	9	455
Never before convicted	11	1	6	11	9	246	11	20	8	20	343
Unknown	...	...	...	...	...	1	...	...	...	...	1
Intemperate	...	...	...	...	...	...	...	...	1		1
Unknown	25	3	9	44	22	572	13	65	16	29	798

HUDSON CITY.

	Drunk and dis'derly.	Intoxication.	Petit larceny.	Vagrancy.	Violating city ordinance.	Total.
Number reported	5	15	2	1	10	33
Males	3	10	2	1	10	26
Females	2	5	...	...	...	7
From 15 to 21 years of age	2	3	...	...	...	5
From 21 to 25 years of age	...	6	1	...	2	9
From 25 to 30 years of age	...	3	1	...	5	9
From 30 to 40 years of age	3	1	...	...	1	5
From 40 to 50 years of age	...	2	...	1	2	5
Married	2	6	...	...	1	9
Married and having children	1	...	1	...	2	4
Single	2	9	1	1	7	20
Natives of United States	3	9	1	...	6	19
Natives of Ireland	2	3	...	1	3	9
Natives of Germany	...	2	1	...	1	4
Natives of England	...	1	...	...	...	1
Can read and write	4	6	1	...	7	18
Can read only	1	...	...	1	...	2
Cannot read or write	...	9	1	...	3	13
Had religious instruction	5	6	1	...	5	17
Never had religious instruction	...	9	1	1	4	15
Unknown	...	...	...	...	1	1
Parents living	3	7	1	...	4	15
Father living	1	1	...	...	...	2

Table M. — Hudson city — (Continued).

	Drunk and dis'rd'rly.	Intoxication.	Petit larceny.	Vagrancy.	Violat'n city o'dince.	Total.
Mother living	...	3	.....	1	.....	4
Parents dead	1	4	1	....	6	12
Before convicted	3	12	....	...	9	24
Never before convicted	1	3	2	1	1	8
Unknown	1	......	......	......	......	1
Temperate	.....	1	2	....	....	3
Intemperate	5	14	....	1	10	30

BUFFALO CITY.

	Assault and battery.	Intoxication.	Misdemeanor.	Petit larceny.	Vagrancy.	Malicious mischief.	Truancy.	Total.
Number reported	289	40	138	532	118	39	12	1,168
Males	261	28	103	473	104	35	10	1,014
Females	28	12	35	59	14	4	2	154
Under 15 years of age	1	..	11	92	3	1	8	116
From 15 to 21 years of age	43	3	13	129	41	10	4	243
From 21 to 25 years of age	65	6	17	67	21	7	.	183
From 25 to 30 years of age	68	8	28	74	20	9	..	207
From 30 to 40 years of age	68	11	39	99	25	5	..	247
From 40 to 50 years of age	24	8	20	50	5	5		112
From 50 to 60 years of age	16	2	10	14	2	.....	...	44
Over 60 years of age	3	2	.....	7	1	2	..	15
Unknown	1	...	.....	.....	.....	.....		1
Married	155	21	58	150	10	19	1	414
Single	134	19	80	382	108	20	11	754
Natives of United States	166	19	94	326	60	19	12	696
Natives of Ireland	28	13	8	39	19	5		112
Natives of Germany	56	5	22	58	9	8		158
Natives of England	9	...	4	20	10	3	...	46
Natives of Scotland	1	...	......	4	3	2	..	10
Natives of France	1	1	1	...	.....	.....	.	3
Natives of Canada	7	1	7	20	5	.....	...	40
Other foreign countries	21	1	2	65	12	2	....	103
Can read and write	259	35	125	434	92	37	9	991
Cannot read or write	30	5	13	98	26	2	3	177
Unknown	289	40	138	532	118	39	12	1,168
Parents living	92	12	44	212	38	15	5	418
Father living	23	3	15	41	8	3	3	96
Mother living	55	8	26	89	18	13	3	212
Parents dead	119	17	53	190	54	8	1	442
Unknown	289	40	138	532	118	39	12	1,168
Temperate	289	...	114	532	116	39	12	1,102
Intemperate	......	34	24	.....	2	......	...	60
Unknown	...	6	....	.....	....	......	...	6

Table M. — (Continued).

BROOKLYN CITY.

	Assault and battery.	Assault.	Vagrancy.	Petit larceny.	Attempt at petit larceny	Drunk and dis'derly.	Malicious mischief.	Disorderly conduct.	Violating health law.	Violating city ordinance.	Truants.	Habitual drunkards	Threats.	Abandonment.	Total.
Number reported	1,695	525	903	1,310	312	7,636	737	2,841	1,586	2,166	108	353	277	268	20,717
Males	1,233	365	680	868	172	5,165	586	2,394	1,334	1.810	108	247	246	268	15,476
Females	462	160	223	442	140	2,471	151	447	252	356	..	106	31	.....	5,241
Under 15 years of age	.....	....	101	166	65	121	106	64	.....	193	98	.....	.....	....	914
From 15 to 21 years of age	144	61	145	176	75	587	168	321	5	336	.....	...	6	5	2,029
From 21 to 25 years of age	365	145	117	265	67	1,756	169	760	310	484	.....	52	67	34	4,591
From 25 to 30 years of age	568	167	149	213	56	2,095	110	988	551	591	.....	98	105	61	5,752
From 30 to 40 years of age	353	101	194	231	18	1,790	96	479	338	280	...	89	62	92	4,123
From 40 to 50 years of age	162	31	121	169	12	847	55	154	250	179	.....	59	22	47	2,108
From 50 to 60 years of age	74	19	43	63	10	291	27	62	112	82	.....	37	12	20	852
Over 60 years of age	29	1	18	18	9	117	3	13	20	21	....	17	3	9	278
Unknown	.....	...	15	9	.....	32	3	.....	...	.....	10	1	..	.....	70
Married	635	186	154	465	106	2,809	249	1,028	1,214	664	.....	173	140	183	8,006
Married and having children	419	103	249	318	61	1,896	167	693	211	587	.....	89	50	85	4,928
Single	641	236	500	500	145	2.931	321	1,120	161	915	108	91	87	.....	9.756
Unknown	.....	.....	.....	27	...	.....	.....	.....	.....	...	....	..	...	.....	27
Natives of United States	796	231	189	509	109	4,026	286	1,937	1,191	1,203	108	196	211	162	11,157
Natives of Ireland	372	112	193	336	64	1.640	153	531	151	390	....	85	24	45	4,096
Natives of Germany	215	86	186	213	59	1,009	99	218	173	291	...	29	2	15	2,595
Natives of England	111	52	69	136	44	458	76	87	37	174	.....	28	28	36	1,336
Natives of Scotland	42	16	29	19	11	158	34	17	22	37	.....	3	4	....	392
Natives of France	25	9	15	7	9	147	30	11	9	16	....	4	2	8	292
Natives of Canada	20	7	17	....	7	35	20	11	3	9	....	.....	.....	.....	129
Other foreign countries	114	9	195	84	9	163	39	29	.....	46	..	8	6	2	704
Unknown	.....	....	10	6	....	....	.....	..	.....	.....	.....	.....	.	.....	16
Can read and write	1,435	416	715	1,004	225	6,079	517	1,832	1,503	1,559	29	353	248	256	16,171
Can read only	85	49	125	110	52	430	86	392	58	392	57	....	18	12	1,866
Cannot read or write	175	60	63	196	35	1,127	134	616	25	215	22	.....	11	.....	2,679

Table M. — Brooklyn City — (Continued).

	Assault and battery.	Assault.	Vagrancy.	Petit larceny.	Attempt at petit larceny.	Drunk and dis'derly.	Malicious mischief.	Disorderly conduct.	Violating health law.	Violating city ordinance.	Truants.	Habitual drunkards.	Threats.	Abandonment.	Total.
Unknown	......	.....	.....	.....	..	.. ..	....	1	......	....	.. ..	..	.. ..	.....	1
Unknown	1,695	525	903	1,310	312	7,636	737	2,841	1,586	2,166	108	353	277	268	20,717
Unknown	1,695	525	903	1,310	312	7,636	737	2,841	1,586	2,166	108	353	277	268	20,717
Unknown	1,695	525	903	1,310	312	7,636	737	2,841	1,586	2,166	108	353	277	268	20,717
Unknown	1,695	525	903	1,310	312	7,636	737	2,841	1,586	2,166	108	353	277	268	20,717

Table M.—(Continued.)

ROCHESTER CITY.

	Assault.	Drunk and disorderly.	Disorderly conduct.	Intoxication.	Petit larceny.	Vagrancy.	Violating city ordin'ce	Misdemeanor.	Total.
Number reported	143	646	11	357	168	150	220	39	1,734
Males	137	534	10	272	143	150	114	37	1,397
Females	6	112	1	85	25	.....	106	2	337
Under 15 years of age	1	....	.....	41	23	13	53	1	132
From 15 to 21 years of age	35	81	7	74	30	25	37	8	297
From 21 to 25 years of age	37	122	1	83	39	34	43	10	369
From 25 to 30 years of age	22	154	2	76	26	24	45	3	352
From 30 to 40 yerrs of age	29	121	1	51	23	19	26	5	275
From 40 to 50 years of age	16	97	.....	28	17	10	14	4	186
From 50 to 60 years of age	3	54	.....	4	9	15	2	4	91
Over 60 years of age	.....	17	.....	....	1	10	.....	4	32
Married	31	163	2	85	17	2	34	2	336
Married and having children	34	141	2	63	19	....	34	2	295
Single	78	342	6	209	132	148	152	35	1,102
Unknown	..	.....	1	.....	..	..	..	.....	1
Natives of United States	120	496	11	296	147	124	179	32	1,405
Natives of Ireland	11	80	.....	24	8	17	9	2	151
Natives of Germany	7	24	....	11	4	....	12	3	61
Natives of England	1	11	.....	7	2	1	3	1	26
Natives of Scotland	1	3	.....	4	.....	1	2	.....	11
Natives of France	.....	....	.....	.....	...	.....	1	.....	1
Natives of Canada	2	17	.....	6	6	2	12	1	46
Other foreign countries	1	15	.....	9	1	5	2	....	33
Can read and write	135	602	11	349	153	137	220	39	1,646
Can read only	6	28	....	5	8	6	.....	....	53
Cannot read or write	2	16	....	3	7	6	.....	.....	34
Unknown	..	.....	.....	..	.....	1	..	.	1
Had religious instruction	143	638	11	356	165	145	220	39	1.717
Never had religious instruction	.....	8	.....	1	3	4	....	....	16
Unknown	..	.....	.....	.....	..	1	..	.	1
Parents living	51	235	4	135	54	13	79	13	584
Father living	19	108	5	54	26	11	31	8	262
Mother living	40	124	2	78	43	17	47	4	355
Parents dead	33	179	.. ..	90	45	109	63	14	533
Before convicted	39	293	3	174	26	59	102	15	711
Never before convicted	104	353	8	183	142	91	118	24	1,023
Temperate	33	..	.....	.....	45	9	36	2	125
Intemperate	110	646	11	357	123	141	184	37	1,609

Table M. — (Continued.)

NEW YORK CITY.

	Assault and battery.	Vagrancy.	Petit larceny.	Cruelty to animals.	Drunk and dis'derly.	Malicious mischief.	Disorderly conduct.	Misdemeanor.	Violating health laws	Cruelty to children.	Violating city ordinance.	Violating excise law.	Bastardy.	Disorderly persons.	Disorderly house.	Violating Sanitary Code.	Total.
Number reported	733	7,028	1,565	171	23,539	21	11,403	1,744	138	91	340	302	74	221	25	4	47,399
Males	661	4,094	1,424	171	15,818	20	5,603	1,734	122	84	322	286	74	221	9	......	30,643
Females	72	2,934	141	......	7,721	1	5,800	10	16	7	18	16	......	......	16	4	16,756
Under 15 years of age	7	3,043	38	....	4	......	5	249	....	....	3	....	......	......	......	......	3,349
From 15 to 21 years of age	98	334	275	1	2,073	.....	977	741	1	.....	33	2	3	14	1	.....	4,553
From 21 to 25 years of age	104	353	257	1	3,889	......	1,438	85	1	1	13	1	13	34	....	......	6.190
From 25 to 30 years of age	94	466	162	.....	4,542	2	1,727	83	1	1	10	5	21	26	2	......	7,142
From 30 to 40 years of age	93	966	185	1	5.818	......	2,999	125	1	2	9	3	35	87	3	......	10,326
From 40 to 50 years of age	53	845	85	..	4,221	......	2,426	110	2	2	9	4	3	48	2	......	7,810
From 50 to 60 years of age	29	546	39	.....	1,949	.....	1,151	82	....	....	9	1	......	9	1	......	3,816
Over 60 years of age	5	475	9	..	1,043	...	680	76		.....	1	.....	.....	2	......	......	2,291
Unknown	250	....	515	168	....	19	....	193	132	85	253	286	.....	1	16	4	1,922
Married	177	2,149	325	1	9,439	1	5,294	357	2	5	32	9	22	172	6	......	17,991
Single	301	4,879	725	2	14,100	1	6,109	1,194	4	1	55	7	52	48	3	......	27,481
Unknown	255	......	515	168	....	19	.	193	132	85	253	286	....	1	16	4	1,927
Natives of United States	247	4,214	666	1	11,424	1	5,103	819	1	3	41	8	36	107	6	......	22,677
Natives of Ireland	117	1,713	174	1	7,198	......	4,538	60	....	2	11	1	12	50	.....	.....	13,877
Natives of Germany	46	518	87	....	2,216	1	814	78	1	1	13	3	21	33	2	......	3,834
Natives of England	25	209	59	....	912	.....	460	15	....	...	4	2	2	8	....	......	1,696
Natives of Scotland	12	67	25	.....	333	.....	129	18	.	....	1	...	1	3	.....	.....	589
Natives of France	10	41	11	..	220	......	56	6	..	.....	......	....	.....	2	.....	.....	346
Natives of Canada	4	26	11	....	144	.....	55	4	......	......	....	......	.....	1	......	......	243
Other foreign countries	17	240	17	1	1,092	....	250	551	4	.....	17	2	2	16	1	....	2,210
Unknown	255	....	515	168	..	19	....	193	132	85	253	286	..	1	16	4	1,927
Can read and write	431	5,879	959	1	21,224	1	10,241	1,370	6	5	63	13	64	187	6	.....	40,450
Can read only	16	342	31	......	921	.....	478	66	...	....	8	1	5	11	2	....	1,881
Cannot read or write	31	807	60	2	1,394	.....	684	115	...	1	16	2	5	22	1	...	3,140
Unknown	255	....	515	168	.	20	....	193	132	85	253	286	.....	1	16	4	1,928
Had religious instruction	733	7,028	1,565	171	23,539	21	11,403	1,744	36	91	340	302	74	221	25	4	47,397
Unknown	.....	.....	.....	....	.....	....	.....	..	2	.....	....	.....	.....	.....	....	...	2
Parents living	21	378	51	....	959	1	445	123	......	.....	18	1	4	14	..	.....	2,015
Father living	39	624	79	.....	1,633	.....	789	179	.....	.....	9	....	6	11	2	......	3,351

Mother living	44	752	94	....	1,633	.....	781	181	2	... ..	7	1	10	10	1	......	3,516
Parents dead	374	5,274	826	3	19,314	1	9,388	1,088	4	6	53	14	54	185	6	. ....	36,590
Unknown	255	....	515	168	....	19	....	193	132	85	253	286	.....	1	16	4	1,927
Before convicted	66	1,017	135	1	19,106	... ..	9,262	183	......	......	17	9	10	25	3	.. ..	29,834
Never before convicted	412	6,011	915	2	4,433	2	2,141	1,368	6	6	70	7	64	195	6	......	15,638
Unknown	255	....	515	168	.. ...	19	.... ..	193	132	85	253	286	.. ..	1	16	4	1,927
Temperate	345	6,304	920	2	2,391	2	1,154	1,398	6	5	74	16	56	175	7	......	12,855
Intemperate	133	724	130	1	21,148	......	10,249	153	......	1	13	......	18	45	2	......	32,617
Unknown	255	....	515	168	....	19	....	193	132	85	253	286	.. ..	1	16	4	1,927

Table M.— (Continued.)

LOCKPORT CITY.

	Petit larceny.	Assault.	Vagrancy.	Intoxication.	Disorderly person.	Cruelty to children.	Malicious mischief.	Indecent exposure.	Gambling.	Total.
Number reported	10	31	20	187	29	1	6	1	2	287
Males	9	30	13	175	21	1	5	1	2	258
Females	1	1	7	12	8	.....	1	.....	.....	29
Under 15 years of age	3	1	1	.....	4	.....	.....	.....	.....	9
From 15 to 21 years of age	1	5	3	8	5	.....	1	.....	.....	23
From 21 to 25 years of age	1	5	3	12	1	.....	1	1	.....	24
From 25 to 30 years of age	2	3	4	46	6	.....	.....	.....	.....	61
From 30 to 40 years of age	1	8	2	41	3	1	2	.....	1	59
From 40 to 50 years of age	1	6	1	22	4	.....	1	.....	1	36
From 50 to 60 years of age	1	3	4	34	4	.....	.....	.....	.....	46
Over 60 years of age	.....	.....	2	24	2	.....	1	.....	.....	28
Married	2	14	1	54	15	1	1	.....	2	90
Single	8	17	19	133	14	.....	5	1	.....	197
Natives of United States	7	22	12	85	18	1	5	1	2	153
Natives of Ireland	.....	4	8	56	3	.....	.....	.....	.....	72
Natives of Germany	.....	2	.....	12	2	.....	.....	.....	.....	16
Natives of England	1	1	.....	10	2	.....	1	.....	.....	15
Natives of Scotland	.....	.....	.....	8	.....	.....	.....	.....	.....	8
Natives of France	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Natives of Canada	2	1	.....	14	3	.....	.....	.....	.....	20
Other foreign countries	.....	.....	.....	2	.....	.....	.....	.....	.....	2
Can read and write	6	29	11	159	25	.....	5	1	2	238
Cannot read or write	4	2	9	28	4	1	1	.....	.....	49
Unknown	10	31	20	187	29	1	6	1	2	287
Parents living	8	25	11	103	23	.....	4	1	2	177
Parents dead	2	6	9	84	6	1	2	.....	.....	110
Never before convicted	10	31	20	187	29	1	6	1	2	287
Temperate	10	31	20	.....	29	1	6	1	2	100
Intemperate	.....	.....	.....	187	.....	.....	.....	.....	.....	187

CITY OF UTICA.

	Assault.	Disorderly conduct.	Intoxication.	Misdemeanor.	Petit larceny.	Vagrancy.	Violating city ordinance.	Total.
Number reported	56	2	446	31	39	128	29	731
Males	50	2	394	26	35	123	12	642
Females	6	.....	52	5	4	5	17	89
Under 15 years of age	.....	.....	.....	12	1	5	3	21
From 15 to 21 years of age	13	1	34	4	12	16	7	87
From 21 to 25 years of age	13	.....	62	3	10	21	10	119
From 25 to 30 years of age	13	1	56	4	2	14	5	95
From 30 to 40 years of age	11	.....	87	8	5	28	3	142
From 40 to 50 years of age	2	.....	82	.....	7	30	1	122
From 50 to 60 years of age	2	.....	54	.....	2	7	.....	65
Over 60 years of age	2	.....	63	.....	.....	5	.....	70
Unknown	.....	.....	8	.....	.....	2	.....	10
Married	25	.....	199	8	10	39	14	295
Single	31	2	247	23	28	89	15	435
Unknown	.....	.....	.....	.....	1	.....	.....	1
Natives of United States	38	2	280	22	28	77	17	464
Natives of Ireland	18	.....	87	6	5	24	7	147
Natives of Germany	.....	.....	24	1	3	10	1	39
Natives of England	.....	.....	21	1	1	5	1	29

Table M.— Utica City —(Continued).

	Assault.	Disorderly conduct.	Intoxication.	Misdemeanor.	Petit larceny	Vagrancy.	Violating city ordinance.	Total.
Natives of Scotland	.....	.....	4	1	.....	1	.....	6
Natives of France	.....	.....	1	.....	1	3	.....	5
Natives of Canada	.....	.....	10	.....	1	6	2	19
Other foreign countries	.....	.....	17	.....	.....	2	1	20
Unknown	.....	.....	2	.....	.....	.....	.....	2
Can read and write	55	2	396	31	38	123	28	673
Can read only	1	.....	33	.....	1	5	1	41
Cannot read or write	.....	.....	17	.....	.....	.....	.....	17
Had religious instruction	55	2	423	30	37	121	28	697
Never had religious instruction	.....	.....	23	1	2	7	1	34
Parents living	19	1	107	5	16	28	8	184
Father living	10	1	28	3	5	15	2	64
Mother living	13	.....	122	11	9	26	9	190
Parents dead	10	.....	179	11	9	57	9	275
Unknown	4	.....	10	1	.....	2	1	18
Before convicted	10	1	256	12	9	40	11	339
Never before convicted	46	1	190	19	30	88	18	392
Temperate	35	1	133	20	29	71	19	308
Intemperate	21	1	313	11	10	57	10	423

ROME CITY.

	Assault.	Intoxication.	Petit larceny.	Vagrancy.	Violating city ordinance.	Total.
Number reported	19	104	12	24	11	170
Males	18	93	9	23	6	149
Females	1	11	3	1	5	21
Under 15 years of age	.....	1	1	.....	.....	2
From 15 to 21 years of age	1	8	2	2	1	14
From 21 to 25 years of age	4	14	1	4	1	24
From 25 to 30 years of age	.....	5	2	4	1	12
From 30 to 40 years of age	7	26	4	6	2	45
From 40 to 50 years of age	5	18	2	3	3	31
From 50 to 60 years of age	2	20	.....	2	2	26
Over 60 years of age	.....	12	.....	1	1	14
Unknown	.....	.....	.....	2	.....	2
Married	12	26	3	5	4	50
Single	7	78	7	17	7	116
Unknown	.....	.....	2	2	.....	4
Natives of United States	13	55	5	11	9	93
Natives of Ireland	2	23	.....	2	2	20
Natives of Germany	8	12	3	2	.....	20
Natives of England	1	6	2	3	.....	12
Natives of Scotland	.....	2	.....	.....	.....	2
Natives of Canada	.....	3	.....	4	.....	7
Other foreign countries	.....	3	.....	.....	.....	3
Unknown	.....	.....	2	2	.....	4
Can read and write	19	104	9	21	11	164
Can read only	.....	.....	1	1	.....	2
Unknown	.....	.....	2	2	.....	4
Had religious instruction	19	103	10	22	11	165
Never had religious instruction	.....	1	.....	.....	.....	1
Unknown	.....	.....	2	2	.....	4

Table M. — Rome City — (Continued).

	Assault.	Intoxication.	Petit larceny.	Vagrancy.	Violating city ordinance.	Total.
Parents living	7	22	2	5	3	39
Father living	2	7	.....	2	2	13
Mother living	6	14	5	3	3	31
Parents dead	4	57	3	12	3	79
Unknown	.....	4	2	2	.....	8
Before convicted	8	102	2	13	3	129
Never before convicted	11	2	7	9	6	35
Unknown	.....	.....	2	2	2	6
Temperate	12	3	9	12	9	45
Intemperate	7	101	1	10	2	121
Unknown	.....	.....	2	2	.....	4

SYRACUSE CITY.

	Petit larceny.	Assault.	Vagrancy.	Disorderly person.	Malicious mischief.	Intoxication.	Breach of the peace.	Misdemeanor.	Total.
Number reported	145	130	349	3	50	1,046	255	176	2,154
Males	137	121	220	2	49	921	222	159	1,831
Females	8	9	129	1	1	125	33	17	323
Under 15 years of age	18	2	8	1	32	1	.....	25	87
From 15 to 21 years of age	37	9	76	1	17	88	50	39	317
From 21 to 25 years of age	29	18	77	.....	.....	152	54	16	346
From 25 to 30 years of age	19	47	88	.....	1	278	36	24	493
From 30 to 40 years of age	13	38	62	1	.....	228	42	26	410
From 40 to 50 years of age	17	12	20	.....	.....	228	45	25	347
From 50 to 60 years of age	7	3	8	.....	...	25	16	4	63
Over 60 years of age	5	1	10	.....	.....	46	12	17	91
Married	42	67	54	.....	1	418	105	57	744
Single	103	63	295	3	49	628	150	119	1,410
Natives of the United States	103	90	259	3	55	663	174	127	1,464
Natives of Ireland	22	17	42	.....	3	255	27	14	350
Natives of Germany	3	6	12	.....	1	52	19	3	96
Natives of England	2	1	3	.....	.....	1	12	7	56
Natives of Scotland	3	3	3	.....	.....	5	3	2	19
Natives of France	1	.....	1	.....	.....	2	2	.....	6
Natives of Canada	7	12	23	.....	1	54	14	19	130
Other foreign countries	4	1	8	.....	.....	14	4	4	33
Can read and write	126	120	327	2	47	962	232	156	1,972
Cannot read or write	19	10	22	1	3	84	23	20	182
Unknown	145	130	349	3	50	1,046	255	176	2,154
Parents living	110	90	199	3	34	652	201	126	1,415
Parents dead	35	40	150	.....	16	394	54	50	739
Before convicted	104	87	206	3	27	673	164	104	1,368
Never before convicted	41	43	143	.....	23	373	91	72	786
Unknown	145	130	349	3	50	1,046	255	176	2,154

Table M.—(Continued.)

NEWBURGH CITY.

	Intoxication.	Cruelty to animals.	Disorderly person.	Disturbing religious meeting.	Assault.	Petit larceny.	Misdemeanor.	Vagrancy.	Total.
Number reported	157	1	1	1	16	16	3	26	221
Males	142	1	1	1	16	16	3	22	202
Females	15	....	....	....	....	....	....	4	19
From 15 to 21 years of age	4	....	1	....	1	6	2	4	18
From 21 to 25 years of age	14	....	....	1	4	3	1	7	30
From 25 to 30 years of age	46	1	....	....	6	2	....	12	67
From 30 to 40 years of age	38	....	....	....	2	4	....	2	46
From 40 to 50 years of age	39	....	....	....	1	1	....	1	42
From 50 to 60 years of age	16	....	....	....	2	....	....	....	18
Married	77	....	....	....	6	4	....	8	95
Single	53	....	1	1	7	12	1	13	88
Unknown	27	1	....	....	3	....	2	5	38
Natives of United States	93	....	1	1	12	13	3	16	139
Natives of Ireland	41	....	....	....	3	3	....	9	56
Natives of Germany	15	1	....	....	....	....	....	1	18
Natives of Scotland	8	....	....	....	....	....	....	....	8
Can read and write	102	1	1	1	12	15	3	17	152
Can read only	27	....	....	....	2	1	....	....	30
Cannot read or write	19	....	....	....	2	....	....	9	30
Unknown	9	....	....	....	....	....	....	....	9
Had religious instruction	92	1	1	1	12	15	3	14	139
Unknown	65	....	....	....	4	1	....	12	82
Parents living	72	....	1	1	12	13	3	8	110
Father living	18	1	....	....	2	....	....	....	21
Mother living	16	....	....	....	1	2	....	4	23
Parents dead	19	....	....	....	....	1	....	2	22
Unknown	32	....	....	....	1	....	....	12	45
Before convicted	97	....	....	....	12	7	3	15	134
Never before convicted	8	1	1	1	2	9	....	....	22
Unknown	52	....	....	....	2	....	....	11	65
Temperate	27	....	1	....	9	12	3	8	60
Intemperate	130	1	....	1	7	4	....	18	161

OSWEGO CITY.

	Assault.	Drunk and disorderly.	Disorderly conduct.	Intoxication.	Misdemeanor.	Nuisance.	Petit larceny.	Vagrancy.	Violating city ordin'ce.	Total.
Number reported	64	18	12	242	5	3	20	10	99	473
Males	62	16	4	217	5	3	18	8	81	414
Females	2	2	8	25	....	....	2	2	18	59
Under 15 years of age	2	4	....	....	....	....	2	....	....	8
From 15 to 21 years of age	10	3	4	35	3	....	3	3	28	89
From 21 to 25 years of age	11	4	3	57	1	2	2	2	18	100
From 25 to 30 years of age	8	3	4	39	1	1	3	1	20	80
From 30 to 40 years of age	17	3	1	44	....	....	6	1	20	92
From 40 to 50 years of age	13	1	....	43	....	....	4	1	13	75
From 50 to 60 years of age	3	....	....	17	....	....	....	2	....	22

Table M.—Oswego City—(Continued).

	Assault.	Drunk and disorderly	Disorderly conduct.	Intoxication.	Misdemeanor.	Nuisance.	Petit larceny.	Vagrancy.	Violating city ordinance.	Total.
Over 60 years of age				5						5
Unknown				2						2
Married	28	3	4	88			2	1	31	157
Married and having children	6	5	2	59			6	3	14	95
Single	26	10	6	93	2	3	12	6	51	209
Unknown	4			2	3				3	12
Natives of United States	36	10	9	119	4	3	11	5	54	251
Natives of Ireland	9	3		55				1	17	85
Natives of Germany	1			6					2	9
Natives of England	1			13			1		5	20
Natives of Scotland	1	1		4					2	8
Natives of France	1			2					1	4
Natives of Canada	15	4	3	42			7	1	15	87
Other foreign countries									3	3
Unknown				1	1		1	3		6
Can read and write	47	16	8	152	4	3	10	7	75	322
Can read only	6	1	2	24			6	1	11	51
Cannot read or write	9	1	2	48	1		4	2	13	80
Unknown	2			18						20
Had religious instruction	47	11	11	168	4	3	12	6	78	340
Never had religious instr'n	12	6	1	54			8	4	16	101
Unknown	5	1		20	1				5	32
Parents living	22	3	6	89	2	3	5	3	44	177
Father living	8	6	3	32			1	1	18	69
Mother living	8		1	29	2		1	2	11	54
Parents dead	17	9	2	76			11	4	26	145
Unknown	9			16	1		2			28
Before convicted	16	8	6	108			4	2	30	174
Never before convicted	36	10	6	94	4	3	15	8	60	236
Unknown	12			40	1		1		9	63
Temperate	40	5	4	53	5	2	15	3	57	184
Intemperate	19	13	8	149			4	6	33	232
Unknown	5			40		1	1	1	9	57

LONG ISLAND CITY.

	Assault.	Breach of the peace.	Drunk and disorderly	Disorderly conduct.	Intoxication.	Misdemeanor.	Petit larceny.	Total.
Number reported	9	3	49	28	40	3	11	143
Males	8	3	37	19	30	3	11	111
Females	1		12	9	10			32
Under 15 years of age				5		2		7
From 15 to 21 years of age			3	3		1	3	10
From 21 to 25 years of age	2	1	8	2	7		2	22
From 25 to 30 years of age		1	6	4	4		1	16
From 30 to 40 years of age	5	1	10	7	14		2	39
From 40 to 50 years of age	2		13	4	10		1	30
From 50 to 60 years of age			7	3	5		2	17
Over 60 years of age			2					2
Married	4		4	1	3	1	1	14
Married and having children			13	9	15		2	39

Table M. — Long Island City — (Continued).

	Assault.	Breach of the peace.	Drunk and disorderly	Disorderly conduct.	Intoxication.	Misdemeanor.	Petit larceny.	Total.
Single	5	3	32	18	22	2	8	90
Natives of United States	4	2	19	13	16	3	6	63
Natives of Ireland	3	...	21	8	17	....	......	49
Natives of Germany	1	......	5	4	3	....	5	18
Natives of England	....	......	2	...	3	..	.....	5
Natives of Scotland	1	1	....	1	1	.....	....	4
Other foreign countries	.....	...	2	2	.....	.....		4
Can read and write	8	3	42	26	36	3	11	129
Can read only	..	...	....	1	2	.....	......	3
Cannot read or write	1	.....	7	1	2	....	....	11
Had religious instruction	9	3	49	28	40	3	11	143
Parents living	1	...	13	7	8	1	1	31
Father living	1	..	1	1	2	..	....	5
Mother living	3	1	6	3	3	2	1	19
Parents dead	4	2	29	17	27	....	9	88
Before convicted	7	1	30	13	17	...	4	72
Never before convicted	2	2	19	15	23	1	7	69
Unknown	.			.....	......	2	......	2
Temperate	1	1	....	5	....	3	3	13
Intemperate	8	2	49	23	40	.....	7	129
Unknown	...	...	....	....	......	......	1	1

TROY CITY.

	Assault	Disorderly person.	Intoxication.	Misdemeanor.	Petit larceny.	Vagrancy.	Total.
Number reported	106	376	322	18	76	125	1,023
Males	86	294	261	18	69	96	824
Females	20	82	61	.....	7	29	199
Under 15 years of age	1	..	.	.....	3	....	4
From 15 to 21 years of age	21	44	23	2	27	1	118
From 21 to 25 years of age	36	94	99	4	20	4	257
From 25 to 30 years of age	30	112	73	6	15	10	257
From 30 to 40 years of age	11	62	65	4	6	22	170
From 40 to 50 years of age	7	41	36	2	2	38	126
From 50 to 60 years of age	......	20	20	...	3	33	76
Over 60 years of age	......	3	6	.....	.....	17	26
Married	58	220	185	11	24	77	575
Single	48	156	137	7	52	48	448
Natives of United States	34	121	80	5	32	32	304
Natives of Ireland	45	159	136	11	31	57	439
Natives of Germany	13	57	56	2	9	27	164
Natives of England	9	23	39	...	3	5	79
Natives of Scotland	4	2	2	......	1	2	11
Natives of France	......	.....	2	......	.....	.....	2
Natives of Canada	1	14	7	....	....	2	24
Can read and write	71	184	104	17	58	55	489
Can read only	17	117	145	....	14	31	324
Cannot read or write	18	75	73	1	4	39	210
Had religious instruction	105	376	322	18	76	115	1,012
Unknown	1	....	..	......	.....	10	11
Parents living	49	131	116	9	41	15	361
Father living	17	84	70	3	13	17	204
Mother living	20	87	72	3	15	26	223
Parents dead	20	74	64	3	7	67	235
Before convicted	42	224	209	6	25	76	582
Never before convicted	64	152	113	12	51	49	441
Temperate	59	90	...	15	54	21	239
Intemperate	47	286	322	3	22	104	784

Table M. — (Continued).

OGDENSBURGH CITY.

	Petit larceny.	Drunk and dis'rd'rly.	Vagrancy.	Assault.	Breach of the peace.	Intoxication.	Total.
Number reported	5	3	2	2	5	4	21
Males	4	2	2	2	5	4	19
Females	1	1					2
From 15 to 21 years of age					3		3
From 21 to 25 years of age	1				1	1	3
From 25 to 30 years of age	2				1		3
From 30 to 40 years of age		2		1		2	5
From 40 to 50 years of age	2		2				4
From 50 to 60 years of age		1		1		1	3
Married	1					1	2
Married and having children		2	1	1		1	5
Single	4	1	1	1	5	2	14
Natives of United States	3		2	2	3	4	14
Natives of Ireland					2		2
Natives of Canada	2	2					4
Unknown		1					1
Can read and write	2	1	2	2	3	4	14
Can read only	2						2
Cannot read or write	1	2			2		5
Had religious instruction	3	1	2	2	1	4	13
Never had religious instruction	1	1					2
Unknown	1	1			4		6
Parents living	2				2	2	6
Father living	1						1
Mother living		1			3	1	5
Parents dead	2	2	2	2		1	9
Before convicted		1		2		2	5
Never before convicted	5	2	2		5	2	16
Temperate	2						2
Intemperate	3	3	2	2	5	3	18
Unknown						1	1

KINGSTON CITY.

	Intoxication.	Petit larceny.	Assault.	Disorderly person.	Vagrancy.	Malicious mischief.	Defrauding hotel-keeper.	Total.
Number reported	45	16	22	46	19	2	2	152
Males	43	15	21	33	18	2	2	134
Females	2	1	1	13	1			18
Under 15 years of age	1			5	3			9
From 15 to 21 years of age	13	5	6	21	10		1	56
From 25 to 30 years of age	10	5	8	12	4		1	40
From 30 to 40 years of age	8	3	5	4	1	2		23
From 40 to 50 years of age	10	2	2	2				16
From 50 to 60 years of age	2	1	1	1	1			6
Over 60 years of age	1			1				2
Married	19	6	11	18		1		55
Single	26	10	11	28	19	1	2	97
Natives of United States	36	13	17	39	16	2	2	125
Natives of Ireland	2		3	1	1			7
Natives of Germany	6	1	2	5	1			15
Natives of England	1	2		1	1			
Can read and write	35	12	17	27	19		2	11
Can read only	1		1	4				

Table M. — Kingston City — (Continued).

	Intoxication.	Petit larceny.	Assault.	Disorderly person.	Vagrancy.	Malicious mischief.	Defrauding hotel-keeper.	Total.
Cannot read or write	9	4	4	15	.	2	..	34
Had religious instruction	45	16	22	46	19	2	2	152
Parents living	15	7	10	10	8	....	....	50
Father living	6	3	5	6	...	1	....	21
Mother living	4	2	1	10	6	1	1	25
Parents dead	20	4	6	20	5	..	1	56
Before convicted	13	7	7	24	3	1	......	55
Never before convicted	32	9	15	22	16	1	2	97
Temperate	36	13	18	33	19	1	2	122
Intemperate	9	3	4	13	......	1	......	30

Table N. — Abstract of Table M.

	Abandonment.	Affray.	Arson.	Assault.	Assault and battery.	Attempt at petit larceny.	Bastardy.	Breach of the peace.	Burglary.	Contempt.	Cruelty to children.	Cruelty to animals.	Disorderly conduct.	Disorderly houses.	Disorderly persons.	Drunk and disorderly.	Deserting family.	Default.	Defaulting witness.	D'frd'g boarding-house keeper.	Defrauding hotel-keeper.	Disturbing religious meeting.	False pretenses.	Forgery.	Gambling.
Number reported	269	4	1	1158	2929	312	76	562	5	1	92	173	14361	37	676	32529	5	1	1	1	2	3	1	2	3
Males	269	4	1	950	2348	172	76	474	5	...	85	173	8086	17	572	22177	5	1	1	1	2	3	1	2	3
Females	...	...	...	208	581	140	...	88	...	1	7	...	6275	20	104	10352	...	...	...	...	...	...	...	...	...
Under 15 years of age	...	...	...	12	12	65	...	5	...	...	...	...	81	...	10	146	...	...	1	...	...	...	...	...	...
From 15 to 21 years of age	5	1	...	166	337	75	2	114	1	...	...	2	1319	8	86	2851	...	...	...	...	1	1	...	...	...
From 21 to 25 years of age	34	2	1	282	599	67	15	144	...	...	1	1	2230	2	129	5890	3	1	...	...	...	1	...	...	2
From 25 to 30 years of age	62	1	...	312	774	56	22	100	2	...	1	1	2740	3	156	6986	1	...	...	...	1	...	...	1	1
From 30 to 40 years of age	92	...	...	241	541	18	35	96	2	...	3	1	3495	3	157	7823	1	...	...	1	...	1	1	1	...
From 40 to 50 years of age	47	...	...	102	255	12	3	64	...	1	2	...	2586	4	95	5265	...	...	...	...	...	...	...	...	...
From 50 to 60 years of age	20	...	...	39	123	10	...	21	...	...	...	...	1217	1	34	2343	...	...	...	...	...	...	...	...	...
Over 60 years of age	9	...	...	4	37	9	...	14	...	...	...	...	693	...	8	1192	...	...	...	...	...	...	...	...	...
Unknown	...	...	...	...	251	...	...	4	...	...	86	168	...	16	1	33	...	...	...	...	...	...	...	...	...
Married	184	1	1	457	1069	106	24	260	4	1	6	1	6342	11	425	12679	...	...	...	...	...	...	1	1	...
Married and having children	85	...	...	146	434	61	...	...	...	...	...	1	709	1	184	2213	3	...	...	...	...	...	...	...	3
Single	...	3	...	546	1171	145	52	300	1	...	1	2	7306	9	66	17637	2	1	1	1	2	3	...	1	...
Unknown	...	...	...	9	255	...	...	2	...	..	85	169	4	16	1	...	...	...	...	...	...	...	...	...	...
Natives of United States	162	3	1	649	1328	109	38	323	3	1	4	1	7124	14	289	16544	1	1	1	1	2	2	1	2	2
Natives of Ireland	46	1	...	232	566	64	12	115	2	...	2	2	5082	4	214	8994	3	...	...	...	...	1	...	...	1
Natives of Germany	15	...	...	123	351	59	21	54	...	...	1	1	1039	2	97	3265	1	...	...	...	...	...	...	...	...
Natives of England	36	...	...	66	129	44	2	23	...	...	...	...	551	...	34	1383	...	...	...	...	...	...	...	...	...
Natives of Scotland	...	...	...	26	58	11	1	13	...	...	...	...	148	...	5	498	...	...	...	...	...	...	...	...	...
Natives of France	8	...	...	11	38	9	...	13	...	...	...	...	67	...	2	367	...	...	...	...	...	...	...	...	...
Natives of Canada	...	...	...	38	52	7	...	16	...	...	...	...	68	...	18	204	...	...	...	...	...	...	...	...	...
Other foreign countries	2	...	...	13	152	9	2	5	...	...	...	1	281	1	16	1273	...	...	...	...	...	...	...	...	...
Unknown	...	...	...	...	255	...	...	...	..	...	85	168	1	16	1	1	...	...	...	...	...	...	...	...	...
Can read and write	257	3	1	961	2330	225	66	511	5	1	5	3	12183	18	426	28561	5	1	1	1	2	2	1	2	3
Can read only	12	...	...	82	103	52	5	4	...	...	...	...	873	2	132	1388	...	..	...	...	...	...	...	...	...
Cannot read or write	...	1	...	113	241	35	5	43	...	..	2	2	1302	1	117	2580	...	...	...	...	...	1	...	...	...
Unknown	...	...	...	2	255	...	...	4	...	...	85	168	3	16	1	...	...	...	...	...	...	...	...	...	...
Had religious instruction	1	4	1	423	937	...	76	291	4	1	91	173	11490	37	644	24815	5	1	1	1	2	2	1	2	3
Never had religious instruction	...	...	...	14	5	...	...	6	1	...	...	...	6	...	...	32	...	...	...	...	...	1	...	...	...
Unknown	268	...	...	721	1987	312	...	265	...	...	1	...	2865	...	32	7682	...	...	...	...	...	...	...	...	...
Parents living	...	4	1	301	236	...	5	380	4	...	...	...	497	5	182	1374	5	...	1	...	...	1	...	2	2
Father living	1	...	...	68	74	...	7	19	...	...	...	1	808	2	101	1807	...	...	...	...	...	...	...	...	...
Mother living	...	...	...	99	110	...	10	12	1	...	...	1	787	4	107	1852	...	...	...	1	1	...	1	...	1
Parents dead	...	...	...	151	557	...	54	151	...	1	7	3	9427	10	285	19858	...	1	...	...	1	2	...	...	...
Unknown	268	...	...	539	1952	312	...	...	...	...	85	168	2842	16	1	7638	...	...	...	...	...	...	...	...	...
Before convicted	1	1	...	249	138	...	10	224	...	...	...	1	9302	4	276	19778	...	1	...	...	...	...	...	...	1
Never before convicted	...	3	1	370	552	...	66	333	5	1	7	4	2212	17	399	5114	5	...	1	1	2	3	1	2	2
Unknown	268	...	...	539	2239	312	...	5	...	...	85	168	2847	16	1	7637	...	...	...	...	...	...	...	...	...
Temperate	...	4	...	240	781	...	57	261	1	1	6	3	1195	11	328	2543	...	...	1	1	2	1	1	2	1
Intemperate	1	...	1	233	193	...	19	37	4	...	1	2	10287	10	344	22306	5	1	...	...	...	2	...	...	2
Unknown	268	...	...	685	1955	312	...	264	...	...	85	168	2879	16	4	7680	...	...	...	...	...	...	...	...	...

Table N. — (Continued.)

	Habitual drunkard.	Intoxication.	Indecent exposure.	Indecent language.	Malicious mischief.	Misdemeanor.	Nuisance.	Perjury.	Petit larceny.	Prostitution.	Rescuing prisoner.	Renting disorderly houses.	Resisting officer.	Selling mortgaged property.	Selling obscene literature.	Tramps.	Trespass.	Threats.	Truancy.	Vagrancy.	Violation ordinance.	Violation excise laws.	Violation health laws.	Violation military code.	Total.
Number reported	353	5007	1	1	866	2261	2	1	4210	1	1	1	2	1	1	98	4	277	120	9125	2989	309	1728	1	80,565
Males	247	4278	1	1	707	2183	3	1	3487	...	1	1	2	1	1	98	4	246	118	5726	2459	293	1456	1	56,743
Females	106	729	...	...	159	78	...	...	723	1	...	...	...	...	...	...	...	31	2	3399	530	16	272	...	23,822
Under 15 years of age	...	46	...	...	139	305	...	...	372	...	...	...	...	...	...	4	...	...	106	3180	269	...	...	...	4,753
From 15 to 21 years of age	...	434	...	1	201	837	...	...	780	1	...	1	...	...	...	...	3	6	4	689	467	3	6	...	8,403
From 21 to 25 years of age	52	884	1	...	182	170	2	...	746	...	...	...	1	...	...	16	...	67	...	692	602	3	311	...	13,131
From 25 to 30 years of age	98	1066	...	...	123	176	1	...	580	...	1	...	...	...	...	12	...	105	...	845	694	5	552	1	15,179
From 30 to 40 years of age	89	1095	...	...	105	217	...	...	622	...	...	...	1	...	1	9	1	62	...	1377	354	4	339	...	16,788
From 40 to 50 years of age	59	862	...	...	61	165	...	...	385	...	...	...	...	1	...	28	...	22	...	1105	226	5	252	...	11,607
From 50 to 60 years of age	37	382	...	...	27	101	...	...	148	...	...	...	...	...	...	29	...	12	...	674	160	3	112	...	5,434
Over 60 years of age	17	223	...	...	6	97	...	1	43	...	...	...	...	...	...	...		3	...	514	24	...	20	...	2,944
Unknown	1	14	...	...	22	193	...	...	534	...	...	...	...	...	...	...	...	...	10	19	253	286	136	...	2,026
Married	173	1991	...	...	273	530	...	...	1153	...	...	...	2	...	1	47	2	140	1	2543	817	14	1216	1	30,477
Married and having children	89	193	...	...	167	4	...	...	359	...	...	1	...	...	...	20	1	50	...	255	648	1	211	...	5,839
Single	91	2786	1	1	407	1527	3	1	2143	1	1	...	...	1	...	31	1	87	119	6320	1268	8	165	...	42,212
Unknown	...	37	...	...	19	200	...	...	555	...	...	...	...	...	...	...	...	...	...	7	256	286	136	...	2,037
Natives of United States	196	2889	1	1	365	1174	3	1	2060	1	...	...	...	1	1	55	1	211	120	5128	1599	10	1192	1	41,616
Natives of Ireland	85	1221	...	...	163	123	...	...	655	...	1	1	2	...	...	20	3	21	...	2144	456	3	151	...	20,393
Natives of Germany	29	350	...	...	110	119	...	...	417	...	...	...	...	...	...	6	...	2	...	790	324	5	174	...	7,355
Natives of England	28	204	...	...	81	31	...	...	239	...	...	...	...	...	...	7	...	28	...	316	189	3	37	...	3,431
Natives of Scotland	3	84	...	...	36	21	...	...	55	...	...	...	...	...	...	3	...	4	...	107	43	...	22	...	1,138
Natives of France	4	28	...	...	30	8	...	...	21	...	...	...	...	...	...	2	...	2	...	64	18	...	9	...	701
Natives of Canada	...	164	...	...	21	33	...	...	57	...	...	...	...	...	...	5	...	...	...	88	38	...	3	...	812
Other foreign countries	8	63	...	...	41	558	...	...	171	...	...	...	...	...	...	...	...	6	...	461	69	2	4	...	3,138
Unknown	...	4	...	...	19	194	...	...	535	...	...	...	...	...	...	...	...	...	...	27	253	286	136	...	1,981
Can read and write	353	4181	1	1	618	1846	3	1	3090	1	1	1	2	1	1	58	4	248	38	7597	2064	20	1509	1	67,214
Can read only	...	272	...	...	86	67	...	...	176	...	...	...	...	...	...	17	...	18	57	513	418	1	58	...	4,336
Cannot read or write	...	522	...	...	142	155	...	...	416	...	...	...	...	...	...	23	...	11	25	1000	254	2	27	...	7,018
Unknown	...	32	...	...	20	193	...	...	528	...	...	...	...	...	...	...	...	...	...	15	253	286	136	...	1,997
Had religious instruction	...	2935	...	1	34	1928	3	1	2117	1	1	1	2	1	1	82	4	...	...	7653	766	309	136	1	54,983
Never had religious instruction	...	132	...	...	...	5	...	...	17	...	...	...	...	...	...	16	...	...	...	23	22	...	...	...	280
Unknown	353	1940	1	...	832	328	...	...	2076	...	...	...	...	...	...	...	...	277	120	1449	2201	...	1592	...	25,302
Parents living	...	2163	1	...	64	389	3	...	670	...	1	1	...	1	1	10	4	...	5	817	213	4	...	1	7,348
Father living	...	309	...	...	4	193	...	...	185	...	...	...	...	...	...	9	...	...	3	682	67	...	...	...	4,340
Mother living	...	528	...	1	15	237	...	...	294	...	...	...	...	...	...	36	...	...	3	857	103	2	2	...	5,065
Parents dead	...	1936	...	...	27	1245	...	1	1222	1	...	...	2	...	...	43	...	...	1	5824	186	17	4	...	41,017
Unknown	353	71	...	...	756	197	...	...	1839	...	...	...	...	...	...	...	...	277	108	945	2420	286	1722	...	22,795
Before convicted	...	2442	...	...	31	367	...	...	415	...	...	...	1	...	...	61	...	...	...	1493	227	13	...	1	35,037
Never before convicted	...	2430	1	1	40	1560	3	1	1423	1	1	1	1	1	1	37	4	...	...	6572	332	10	6	...	21,527
Unknown	353	135	...	...	795	334	...	...	2372	...	...	...	...	...	...	...	...	277	120	1060	2430	286	1722	...	24,001
Temperate	...	1175	1	...	58	1643	2	1	1811	...	...	1	...	1	1	30	2	...	12	6727	230	29	6	...	17,161
Intemperate	...	3212	...	1	2	236	...	...	227	1	1	...	2	...	...	68	2	...	...	1101	302	3	...	1	38,607
Unknown	353	620	...	...	806	382	1	...	2172	...	...	...	...	...	...	...	...	277	108	1297	2457	286	1722	...	24,797

SCHEDULE A.

Showing the total number of pardons, conditional or unconditional, commutations of sentences and restoration to citizenship in this State, since the year 1846.

YEARS.	FROM WHAT PUNISHMENT PARDONED.									COMMUTATION.		PARDONED CONDITIONALLY.					RESTORED.		FROM WHAT CLASS CRIMES PARDONED.					GENERAL SUMMARY.		
	Fine.	Fine and imprisonment.	Fines but not imprisonment.	Imprisonment but not fines.	Penitentiary, jail and local prisons.	State prisons, limited terms.	State prison for life.	Punishment not stated	Fine partially remitted.	From death to State prison for life.	Other commutations.	To leave the State.	To leave the United States.	To leaving city.	To leaving country.	To abstain from use of intoxicating liquors.	To military privileges.	To rights of a citizen.	Against person.	Against property.	Forgery and against the currency.	Other offenses.	Respited in capital cases.	Conditional pardons.	Unconditional pardons.	Totals.
1847	16	8	1	......	......	94	8	...	...	2	......	1	3	...	...	......	...	101	32	66	15	16	......	4	125	129
1848	1	1	1	1	28	102	2	...	...	1	2	3	......	...	...	......	...	73	33	77	18	11	......	4	135	139
1849	...	3	......	1	4	24	2	...	...	1	......	1	......	...	...	......	..	7	9	22	3	1	5	6	29	35
1850	...	2	......	1	6	51	...	...	1	1	......	2	1	...	...	......	...	12	12	34	12	4	......	5	57	62
1851	...	9	......	......	38	107	...	1	...	5	......	3	......	...	...	......	...	48	46	77	17	20	11	3	157	160
1852	1	16	......	2	55	103	4	1	...	4	......	...	3	...	...	......	1	84	70	64	25	27	8	7	179	186
1853	1	4	1	......	90	104	2	2	...	3	......	10	......	...	...	......	...	37	61	90	15	1	13	35	172	207
1854	...	5	1	......	58	140	1	...	...	1	43	2	......	...	...	......	...	40	63	138	16	32	3	31	218	249
1855	..	10	......	3	55	92	1	1	..	5	86	23	......	1	3	32	..	1	51	73	13	25	9	39	214	253
1856	1	6	1	......	55	109	1	...	...	5	99	4	1	...	...	5	...	2	53	90	13	17	......	10	267	277
1857	...	18	2	2	82	110	1	...	6	2	1	7	......	...	1	2	...	13	42	95	16	40	......	30	163	193
1858	...	13	3	......	106	127	...	...	6	5	2	10	3	1	...	......	...	29	62	121	17	33	2	22	211	233
1859	...	7	......	......	16	58	3	...	...	2	6	..	......	...	..	......	...	22	25	44	7	8	4	13	78	91
1860	...	3	...	......	15	58	2	...	...	......	14	1	......	...	...	....	...	52	15	38	10	15	1	3	89	92
1861	...	......	......	....	10	55	1	...	...	......	15	...	......	...	1	1	...	30	11	45	5	5	......	2	64	66
1862	...	......	3	......	17	66	4	...	...	......	19	...	1	...	...	......	...	32	17	43	3	14	......	1	86	87
1863	2	2	......	18	6	14	...	...	...	4	1	1	....	...	...	......	...	61	35	25	6	5	1	2	69	71
1864	...	2	......	......	29	84	...	1	...	1	85	...	1	...	...	1	...	61	48	40	13	11	1	2	114	116
1865	...	......	......	......	35	90	3	2	1	2	17	...	1	1	...	1	...	25	58	57	7	9	3	5	126	131
1866	...	11	......	96	61	94	5	1	...	3	21	2	1	...	..	......	...	83	50	78	7	32	1	13	155	168
1867	...	......	2	3	42	87	...	1	...	......	12	5	2	..	1	......	...	47	53	68	5	4	......	16	114	130
1868	...	4	......	......	20	84	1	3	...	5	32	7	1	...	...	......	..	117	36	73	1	2	6	32	80	112
1869	...	......	......	......	23	62	1	...	...	2	18	...	......	...	2	......	...	99	25	52	3	3	2	2	84	86
1870	...	5	......	80	31	49	4	1	...	6	28	2	3	...	2	......	...	137	45	33	1	6	1	7	78	85
1871	...	2	......	......	32	50	1	...	...	1	28	1	......	...	2	......	...	129	34	44	2	2	5	3	79	82
1872	...	2	......	......	29	65	3	...	...	7	50	1	......	1	...	......	...	158	31	58	5	3	1	2	96	98
1873	...	2	1	2	25	18	1	...	2	1	17	4	1	1	..	1	...	23	16	18	1	9	3	13	31	44
1874	...	2	......	1	21	41	1	1	...	1	21	1	1	...	1	1	..	37	29	36	3	5	3	6	62	68

1875	...	3	......	......	27	38	...	...	...	2	22	...	......	..	2	....	..	70	20	42	5	7	11	2	63	65
1876	1	......	......	......	41	55	3	...	...	7	47	...	......	...	2	......	...	128	30	55	4	10	8	2	97	99
1877	...	1	1	......	41	55	2	...	...	2	19	...	......	...	6	......	...	129	26	48	4	12	....	6	84	90
1878	...	5	......	......	52	52	3	..	...	1	95	...	......	...	2	......	...	164	35	53	8	11	1	3	104	107
1879	1	3	......	......	68	35	1	10	1	1	105	2	......	...	3	......	...	278	33	65	2	3	2	6	97	103
1880	...	1	......	31	21	11	...	...	...	......	18	7	......	...	1	3	...	18	9	17	1	5	3	11	21	32
1881	...	......	......	......	......	......	...	...	...	......	17	...	......	...	...	......	...	10	......	......	......	......	2	......	......	.....
1882	...	......	......	......	......	......	...	1	...	1	10	...	......	...	...	......	...	12	......	1	......	......	......	......	1	1
1883	...	1	......	......	15	18	3	...	...	......	17	...	......	...	...	2	...	94	......	......	......	......	......	2	37	39
1884	..	......	......	37	16	20	1	...	...	2	25	...	......	...	...	2	...	244	20	17	......	......	......	2	35	37
1885	...	......	......	28	16	11	1	...	...	2	5	...	......	...	*	1	...	195	13	9	3	3	......	2	26	28
	24	152	14	306	1287	2426	66	26	17	88	957	80	25	5	30	52	1	2883	1248	2006	296	451	111	354	3896	4251

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* On condition that she appear, when called upon, as a witness in the Mandelbaum case.

SCHEDULE B.

Statement showing the number of pardons granted during the year 1885.

Date of pardon.	NAME OF CONVICT.	Convicted of the crime of	Term of sentence.	Date of sentence.	Sentence in county of	To what prison.
1885.						
Jan. 5	Daniel O'Brien	Assault in 3d degree	6 months	Oct. 3, 1884	New York	New York penitentiary.
Jan. 5	Mary Hoey, *alias* Lizzie Ellen Wiggins.	Petit larceny from the person	5 years	April 14, 1882	New York	New York penitentiary.*
Jan. 5	Joseph P. Farley	Murder in the 2d degree	Natural life	April 17, 1878	Niagara	Not stated.
Jan. 5	Horatio S. Courtney	Grand larceny	4 years 6 months	Mch. 5, 1883	New York	Sing Sing.
Jan. 6	Frederick Norton	Assault in 3d degree	6 months	Sept. 22, 1884	Oneida	Albany county penitentiary.
May 28	Etta Hunt	Forgery in 2d degree	5 years	May 8, 1885	Cayuga	Onondaga.
June 22	Willis L. Bouton	Violating election law	1 year	Nov. 18, 1884	New York	Sing Sing.
July 19	Glenn W. Abbott	Forgery	5 years	May 5, 1882	Herkimer	Auburn.
July 21	Richard Fagan	Grand larceny	3 years	Nov. 23, 1883	Albany	Albany county penitentiary.†
Sept. 4	Byron B. Fairbanks	Assault in 1st degree	2 years	Mch. 21, 1884	Chemung	Auburn.
Sept. 11	Louis Beaudry	Grand larceny	5 years	June 22, 1882	Onondaga	Auburn.
Sept. 12	William Hurley	Larceny	Not stated	Jan. 6, 1881	Broome	State ref'mty tran. to Auburn.
Sept. 14	James Gallagher	Grand larceny	4 years	Dec. 11, 1884	Rensselaer	Albany county penitentiary.
Sept. 16	George A. Van Horn, *alias* George Reed	Robbery in 1st degree	15 years	Sept. 22, 1876	New York	Sing Sing.
Sept. 19	Edward Fluett	Perjury	2 years	Dec. 17, 1883	Monroe	Monroe county penitentiary.
Sept. 19	John Pemberthy	Grand larceny in 2d degree	2 years	April 7, 1884	New York	New York penitentiary.
Sept. 21	Nelson Bryan, *alias* Brown	Receiving stolen goods	9 months	May 13, 1885	Kings	Kings county penitentiary.
Sept. 21	Timothy Driscoll	Grand larceny	3 years	Oct. 4, 1884	Albany	Clinton.
Oct. 10	James Hardie	Manslaughter in 1st degree	5 years	Mch. 21, 1884	New York	Sing Sing.
Oct. 17	John McNalley, *alias* McNerney	Vagrancy	3 months	Aug. 18, 1885	Montgomery	Albany county penitentiary.
Oct. 20	Patrick Tierney, *alias* Fierney	Assault in 2d degree	2 years 6 months	May 16, 1884	New York	Sing Sing.
Nov. 9	Edward McKenney, *alias* McKenney	Assault in 2d degree	2 years	June 16, 1884	Montgomery	Clinton.
Dec. 14	Ralph Schmidt	Grand larceny	2 years	June 12, 1884	New York	New York penitentiary.
Dec. 14	Jennie Elmore	Forgery in 2d degree	5 years	Feb. 12, 1885	New York	New York penitentiary.
Dec. 14	Thomas Horan	Burglary in 3d degree	3 years 6 months	Feb. 29, 1884	Kings	Kings county penitentiary.
Dec. 14	Mary Wakefield	Petit larceny	6 months	Oct. 2, 1885	Madison	Onondaga county penitentiary.
Dec. 19	John Curtin	Assuming title of Port Warden	3 months	June, 1881	New York	Judgment stayed.
Dec. 30	Mary Shafter	Assault in 3d degree	6 months	Oct. 6, 1885	Steuben	Monroe county penitentiary.

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* On condition that she shall testify as a witness when required in the case of Frederika Mandelbaum.

† On condition that he abstain for five years from the use of intoxicating drink.

SCHEDULE C.

Statement showing the number of commutations granted during the year 1885.

Date of commutation.	NAME OF CONVICT.	Convicted of the crime of	Term of sentence.	Date of sentence.	Sentenced in county of	To what prison.	Commuted to confinement for
1885.							
Jan. 3	James Lumbard	Burglary, 1st degree	18 years	Oct. 22, 1875	Oneida	Auburn	15 years, from October 23, 1875.
Jan. 5	James E. Kelly	Murder, 1st degree	To be executed	Oct. 23, 1871	Erie	Not stated.	
			Commuted to imprisonment for life, Jan. 4, 1872				
			Commuted to imprisonment for 30 years from Jan. 6, 1872				30 years, from January 6, 1872.
Jan. 5	Seraphine Crevier	Murder, 1st degree	To be executed	Oct. 20, 1871	Essex		
			Commuted to imprisonment for life, Nov. 28, 1871.				
			Commuted to imprisonment for 30 years from Dec. 5, 1871.				30 years, from December 5, 1871.
Nov. 27	Michael Hurley	Burglary, 1st degree	20 years	Oct. 1, 1874	Westchester	Sing Sing	
			Commuted to 12 yrs., 7 months and 16 days from Oct. 3, 1874.			Transferred to Auburn	For 12 years, 7 months and 16 days, from October 3, 1874, to Auburn State prison; will terminate May 18, 1887.
Dec. 28	James Atkinson	Rape	15 years	Oct. 3, 1883	Columbia	Clinton	For 3 years, from October 11, 1883, in Clinton prison subject to legal deduction for good conduct.
Dec. 28	Martin Higgins	Rape	15 years	Oct. 8, 1883	Columbia	Clinton,	For 3 years, from October 11, 1883, in Clinton prison subject to legal deduction for good conduct.
Dec. 28	Partrick Murray	Rape	15 years,	Oct. 8, 1883	Columbia	Clinton	For 3 years, from October 11, 1883, in Clinton prison subject to legal deduction for good conduct.

SCHEDULE D.

Statement showing the names of persons restored to all the rights of citizen by the Governor, during the year 1885.

NAME.	County.	Crime.	Term of sentence.	Date of restoration, 1885.
Thomas S. Grimwood	New York	Grand larceny, 2d degree	2 years	January 28
Wellman, *alias* William E. Sandy	Otsego	Grand larceny	2 years and 6 months	February 7
Solomon Toppling	Onondaga	Burglary in 3d degree	1 year and 6 months.	February 7
Henry Bowman	Onondaga	Burglary in 3d degree	3 years	February 7
Samuel Gilmore, *alias* Ryan	New York	Grand larceny	2 years and 6 months	February 11
James, *alias* Jonas Goldsmith	New York	Grand larceny	3 years and 6 months	February 20
George O'Keefe	New York	Attempting burglary in the 3d degree	2 years	February 28
George J. Kuhn	New York	Assault	Fine, $10	March 6
Franklin Craw	Delaware	Burglary and larceny	2 years and 6 months	March 11
Frederick Green	New York	Grand larceny	5 years	March 12
Horace Saulsbury	Franklin	Grand larceny	2 years and 9 months	March 23
James Gill	New York	False pretenses	2 years and 6 months	March 23
James F. Draddy	New York	Grand larceny	3 years.	March 31
Horace Saulsbury	St. Lawrence	Grand larceny	4 years and 9 months	March 31
Henry Esselbren, *alias* Esselburgh	Kings	Grand larceny	3 years and 6 months	April 2
Michael Coonan	Orange	Burglary, 1st degree	1 year	April 2
Robert McCann	New York	Forgery, 3d degree	1 year	April 14
John O'Brien	Albany	Petit larceny after a felony	4 years	April 14
William Leith	New York	Burglary, 3d degree, two convictions	5 and 5 yrs. respectively.	May 7
Louis Gantz	New York	Grand larceny	2 years	May 13
James McKenna	New York	Burglary, 3d degree	2 years and 6 months	May 15
Benjamin T. Judson, *alias* Franklin Judson	New York	Burglary, 3d degree	2 years	May 15
William H. Reilly	Rockland	Manslaughter, 4th degree	2 years	May 15
Matthew Coulin, *alias* James Reed	New York	Burglary, 3d degree	5 years	May 15
John Dierney, *alias* John Molley	New York	Burglary, 1st degree	7 years and 6 months	May 21
John Spaho	New York	Assault to harm	4 years	May 21
William McVey	New York	Burglary, 3d degree	1 year	May 21
William Duffy	New York	Petit larceny from the person	4 years and 11 months	July 18
Matthew De Freest	Albany	Grand larceny	2 years	July 22
James Cain	New York	Attempting burglary, 3d degree	1 year	August 19
John A. Murray	St. Lawrence	Burglary, 3d degree	1 year	August 19
Frank McGovern	Westchester	Assault to ravish	4 years	August 19
George E. Bragdon	St. Lawrence	Abortion	1 year	August 19

Michael Pendergast	Westchester	Felonious assault	2 years	August	20
Charles Pangborn	Niagara	Assault, 2d degree	2 years	August	25
Philip Dahlin, Jr.	Schenectady	Petit larceny, 2d offense	1 year	September	4
John McCarthy	New York	Petit larceny from the person	5 years	September	11
Amos T. Fowler, *alias* **Walter Williams**	New York	Petit larceny from the person	4 years	September	19
Francis O'Rourke	New York	Burglary, 3d degree	5 years	September	19
Henry Stellges	New York	Arson, 3d degree	4 years	September	19
Thomas Chestnut	Westchester	Rape	10 years	September	19
Thomas Boland	New York	Violation election law	2 years	September	22
Lavern Ward	Niagara	Receiving stolen property	90 days	October	3
Thomas Maloney	Albany	Burglary, 3d degree, two offenses	8 years	October	3
Thomas Maloney	Albany	Larceny from the person	8 years	October	3
Charles R. Holbrook	Tioga	Manslaughter, 4th degree	2 years	October	5
Arthur Wescott	Oswego	Perjury	5 years	October	5
James E. Sifton	Monroe	Burglary, 3d degree	4 years	October	5
Charles Nelson	New York	Attempting petit larceny from the person	2 years	October	5
Edward A. Hodgeman	New York	Attempting petit larceny from the person			
Edward A. Hodgeman	New York	Assault, 2d degree	2 years and 6 months	October	5
Freeman Brown	Cattaraugus	Perjury	3 years and 2 months	October	6
Jacob Zimmerman	New York	Burglary, 3d degree	2 years	October	6
Andrew F. Mangay	New York	Assault to injure	3 years and 6 months	October	6
Thomas F. Curran, *alias* **Francis Burns**	New York	Petit larceny from the person	2 years and 6 months	October	7
Edward A. Claxton	Livingston	Receiving stolen property	1 year	October	7
John Sullivan	New York	Manslaughter, 4th degree	1 year and 6 months	October	7
James, *alias* William Maloney	Albany	Burglary, 3d degree	2 years		
Michael J. Flynn	New York	Receiving stolen goods	5 years	October	7
Peter Donohue	Albany	Burglary	3 years	October	7
Cornelius Mahoney	New York	Assault to harm	5 years	October	12
Michael, *alias* James Walsh	New York	Burglary, 3d degree	2 years and 6 months	October	12
Thaddeus Shulters	Chautauqua	Forgery	2 years	October	12
Edward Smalley	New York	Grand larceny	3 years and 6 months	October	12
Charles Smith	Rockland	Burglary	2 years	October	12
Peter Anthony Gavin	Erie	Aiding a prisoner to escape	5 years	October	12
Michael Ryan	Erie	Petit larceny after a felony	2 years	October	12
Hugh I. Callahan	Kings	Grand larceny	4 years and 11 months	October	13
James Carroll	Monroe	Burglary, 3d degree	2 years and 6 months	October	13
Henry Eagen	Erie	Shooting with intent to harm	2 years	October	13
Michael Dwyer	Onondaga	Attempt at robbery	3 years and 6 months	October	13
John Fox	New York	Larceny from the person	5 years	October	13
Mathias Heuser	Erie	Arson, 3d degree	7 years	October	13
John P. G. Smith	New York	Forgery, 3d degree	5 years	October	13
David W. Chamberlain	Livingston	Embezzlement and larceny	3 years	October	13
Barry Murphy, *alias* Edward Wilson	New York	Grand larceny	2 years and 6 months	October	14
Patrick Ferry	New York	Attempt at burglary, 3d degree	2 years and 6 months	October	14
George Bridge	Washington	Robbery, 1st degree	10 years and 4 months	October	14
Philip Fitzgerald	Schenectady	Burglary, 3d degree	1 year and 6 months	October	14
John Stanton	Schenectady	Grand larceny, 2d degree	1 year and 3 months	October	14
Edwin Webb	Saratoga	Burglary, 3d degree	2 years and 4 months	October	14

SCHEDULE D.—(Continued.)

NAME.	County.	Crime.	Term of sentence.	Date of restoration.
David Garry	New York	Burglary, 3d degree	2 years	October 15
William Killian	New York	Burglary, 3d degree	3 years and 6 months	October 15
Thomas McAllenan	New York	Manslaughter, 3d degree	4 years	October 15
John I. Heeley, *alias* John Riley	New York	Burglary	5 years	October 15
Augustus Wilson	New York	Grand larceny	2 years and 6 months	October 15
Thomas McKeeney, *alias* James Kelly	New York	Grand larceny	1 year and 6 months	October 15
Thomas Fay	New York	Burglary, 3d degree	3 years	October 15
Michael Kiernan	New York	Grand larceny	5 years	October 15
George Riley	New York	Burglary, 2d degree	10 years	October 15
Cornelius Mahoney	New York	Grand larceny	5 years	October 15
James Clancy	New York	Larceny from the person	2 years	October 15
Matthew Marshall	Erie	Robbery	8 years	October 16
George W. Leach	Monroe	Embezzlement and larceny	1 year and 6 months	October 16
William Riley	Rensselaer	Manslaughter, 2d degree	1 year	October 16
Arthur Van Keuren	Rensselaer	Burglary, 3d degree	3 years	October 16
John Free	Rensselaer	Burglary, 3d degree	2 years	October 16
Martin Brennan. *alias* Thomas Fitzgerald	New York	Robbery, 1st degree	10 years	October 16
Francis Van Rensellaer	New York	Robbery, 1st degree	8 years	October 16
Joseph P., *alias* Patrick Ryan	New York	False pretenses	2 years	October 16
Thomas Sliney	Saratoga	Grand larceny	1 year and 6 months	October 19
Edward Sling	Saratoga	Grand larceny	2 years	October 19
Edward Lucas	New York	Grand larceny	4 years and 6 months	October 19
Barry Murphy. *alias* Edward Wilson	New York	Grand larceny	3 years	October 19
David Murphy	New York	Murder in 1st degree	*	October 19
John Conway	Onondaga	Petit larceny, 2d offense	3 years	October 20
Thomas Francis	Albany	Grand larceny	2 years and 6 months	October 20
James Wylde, *alias* Wilds	Jefferson	Burglary, 3d degree	2 years	October 20
John Shanahan, *alias* O'Neil	New York	Grand larceny	1 year and 3 months	October 20
Denis Berrigan	Albany	Attempting burglary, 2d degree	6 months	October 20
Joseph Ford	New York	Grand larceny	2 years and 6 months	October 20
Robert McKay, *alias* James C. McHugh	New York	Attempt at burglary, 3d degree	2 years and 6 months	October 20
Stephen Fitzsimmons	New York	Felonious assault	1 year and 6 moths	October 20
William H., *alias* Edward Welsh	Kings	Felonious assault	5 years	October 20
Horatio S. Courtney	New York	Grand larceny	4 years and 6 months	October 22
Issac Willsee	New York	Felonious assault	3 years	October 22
William O. Sullivan	Rensselaer	Larceny from the person	3 years	October 22
James Jones	Oneida	Robbery, 1st degree	8 years	October 22
Edward Smullen	Tioga	Robbery, 1st degree and larceny	2 years	October 22

* Commuted to imprisonment for his natural life; pardoned by Gov. Cleveland, March 7, 1884.

James Callahan	New York	Burglary	2 years and 6 months	October	22
Terence Condon	New York	Manslaughter, 3d degree	4 years	October	22
James Sweeney	Schenectady	Burglary, 3d degree	2 years	October	22
Edward Maloney	New York	Robbery, 1st degree	15 years	October	22
Daniel Gillen	New York	Attempting burglary	1 year and 6 months	October	22
William Hull, *alias* Hastings	Kings	Grand larceny	4 years and 6 months	October	22
John Chartu	Oneida	Assault to harm	2 years and 6 months	October	22
James Gloghan	New York	Attempting burglary, 3d degree	2 years and 6 months	October	22
James McNamee	New York	Robbery, 1st degree	10 years	October	22
John O'Donnell	New York	Burglary, 3d degree	2 years	October	22
Thomas Welch	Erie	Grand larceny after a felony	5 years	October	22
John McCue	New York	Grand larceny	5 years	October	22
Thomas Hogan	New York	Felonious assault	3 years	October	22
William Conners	New York	Assault to harm	5 years	October	23
Anthony E. Collins	New York	Burglary, 3d degree	2 years and 6 months	October	23
Thomas Smith	New York	Burglary, 3d degree	1 year and 6 months	October	23
Thomas McDonald	New York	Robbery, 1st degree	17 years and 6 months	October	23
James Flynn	New York	Burglary, 3d degree	2 years	October	23
James Mooney	New York	Felonious assault	5 years	October	23
Jeremiah Moriarity	New York	Manslaughter, 3d degree	4 years	October	23
Cornelius Rice	New York	Robbery, 1st degree	15 years	October	23
Michael, *alias* Thomas Doyle	New York	Burglary, 3d degree	3 years	October	23
John Cahill	New York	Burglary, 3d degree	4 years	October	23
James Leavell	New York	Felonious assault	5 years	October	23
John Kiernan	New York	Grand larceny	3 years and 6 months	October	23
John Connell	New York	Burglary, 3d degree	2 years	October	23
James Dwyer	New York	Grand larceny	1 year and 6 months	October	23
Francis Golden	New York	Grand larceny	3 years	October	23
Daniel Raftery	Rensselaer	Burglary, 3d degree	6 months	October	23
Arthur Gluson, *alias* John Muloy	New York	Grand larceny	4 years	October	23
Mark Driscoll	New York	Grand larceny	2 years	October	24
George Williams	Oneida	Robbery, 1st degree	5 years	October	24
Thomas Welch	Erie	Attempting burglary, 3d degree	Fine $25 which was paid.	October	24
Thomas McAviney, *alias* Mack	New York	Burglary, 3d degree	5 years	October	24
Michael Shea	New York	Robbery, 1st degree	5 years	October	24
Charles Burlingham	Saratoga	Burglary, 3d degree	1 year	October	24
David Kenyon	Albany	Receiving stolen goods	1 year	October	24
Frederick W. Knipple	Albany	Burglary, 3d degree	2 years	October	24
James Bogan	New York	Felonious assault	3 years	October	24
John Bowes	Wyoming	Arson, 1st degree	Prison for his nat'l life	October	* 24
Gustave F. Buckle, *alias* John Buckley	New York	Grand larceny	3 years	October	24
James F. Campbell	Albany	Burglary, 3d degree	2 years	October	24
Joseph Deboe, *alias* James McCann	New York	Attempting burglary, 3d degree	3 years	October	24
Henry Conlin	New York	Felonious assault	2 years and 6 months	October	26
Patrick Harty	Oswego	Manslaughter, 2d degree	6 years	October	26
William M. McQuin, *alias* McMahon	New York	Burglary, 3d degree	2 years and 6 months	October	26
John Shanahan, *alias* O'Neil	New York	Grand larceny	2 years	October	26
John Fitzpatrick	Rensselaer	Burglary, 3d degree	2 years and 6 months	October	27
Charles A. Glassman	Erie	Felonious assault	5 years	October	27
Christopher Dannigan	New York	Grand larceny	2 years	October	28

SCHEDULE D.—(Continued.)

NAME.	County.	Crime.	Term of sentence.	Date of restoration.
George G. Matson	Tioga.	Burglary, 3d degree, and larceny	1 year	October 28
Michael O'Brien	New York	Grand larceny	2 years	October 28
William Heavenor, *alias* Hevenor	Albany	Burglary, 3d degree	3 years	October 28
Florence Sullivan, *alias* James McCaffrey	New York	Burglary, 3d degree	3 years	October 28
Thomas Thompson	New York	Felonious assault	4 years and 6 months	October 28
Charles McCabe	Greene	Burglary	5 years	October 28
Peter Francis Smith, *alias* Frank Peters	New York	Burglary, 3d degree	1 year	October 29
John Otis, *alias* Mellville	New York	Grand larceny	2 years	October 29
John Conroy	New York	Grand larceny	5 years	October 29
James Donnelly	New York	Burglary, 3d degree	3 years	October 29
Charles H. Rudd	Oneida	Burglary, 1st degree	10 years	October † 29
Theodore Klump	Wayne	Rape	11 years and 3 months	October 29
James Owens, *alias* O'Brien	New York	Petit larceny from the person	2 years and 6 months	October 30
George W. Willis	Rensselaer	Burglary, 3d degree	2 years	October 30
Clark E. Arnold	Warren	Burglary, 3d degree	3 years	October 30
George E. Woodruff	Oneida	Arson, 1st degree	Prison for his natural life	October ‡ 30
Michael Flanigan	Albany	Assault, 2d degree	2 years and 6 months	October 30
Edward Flanigan	Albany	Assault, 2d degree	2 years	October 30
James C. Miller	Kings	Bigamy	2 years	October 31
Thomas Larkin	Albany	Larceny from the person	1 year	October 31
Frank E. Beaumont	St. Lawrence	Burglary and larceny, two offenses	4 years and 6 months	October 29
Gilbert E. Potter	Otsego	Forgery, 3d degree	2 years	November 2
John Weirick	Kings	Rape	20 years	November 11
William Brushell	Chenango	Manslaughter, 4th degree	2 years	November 14
John Cook	Erie	Grand larceny, 2d degree	2 years	December 2
John Lyons	New York	Assault to rape	2 years and 6 months	December 2
Bernard Fitzpatrick	New York	Manslaughter, 3d degree	4 years	February 20

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* Pardoned by Governor Cleveland Dec. 5, 1885.

† Pardoned by Governor Cleveland Sept. 15, 1884.

‡ Commuted to 13 years Nov. 16, 1883.

STATE OF NEW YORK.

No. 85.

IN ASSEMBLY,

MARCH 23, 1886.

LIST OF GENERAL ORDERS.

G. O.

397. Int. 673. An act to authorize the Adjutant-General of the State to issue certain arms, accoutrements and ammunition to posts of the Grand Army in this State.

398. Int. 132. An act to authorize the veteran soldiers and sailors of the late war, residing in the State of New York, to erect a monument on the Capitol grounds at Albany, in honor of the women of said State, for their humane and patriotic acts during the war.

399. Int. 734. An act to amend chapter 299 of the Laws of 1883, entitled "An act to provide for the enrollment of the militia, for the organization and government of the National Guard of the State of New York, and for the public defense, and entitled the Military Code."

400. Int. 364. An act to provide for the construction of a dam across the outlet of Indian lake for the purpose of storing water for canal purposes.

401. Int. 703. An act to amend section 506 of the Code of Criminal Procedure.

402. Int. 800. An act to amend section 1533 of the Code of Civil Procedure.

403. Int. 820. An act to authorize an increase of the number of the directors of "The Society of the Honorable and the Veteran Comrades of the Seventh Regiment of the National Guard of the State of New York," and to provide for the constitution of the board of directors.

404. Int. 752. An act to amend the Code of Civil Procedure. (Recommitted to the Committee on the Judiciary.)

G. O.

405. Int. 607. An act to amend section 488 of the Code of Civil Procedure. (Recommitted to the Committee on the Judiciary.

406. Int. 753. An act to abolish imprisonment on final judgment in civil actions. (Recommitted to the Committee on the Judiciary.)

407. Int. 582. An act to abolish imprisonment for debt. (Recommitted to the Committee on the Judiciary.)

408. Int. 120. An act to amend chapter 442, Laws of 1881, entitled "An act to establish a Code of Criminal Procedure."

409. Int. 237. An act to amend section 1904 of the Code of Civil Procedure.

411. Int. 763. An act to amend chapter 506 of the Laws of 1871, entitled "An act to incorporate the Real Estate Trust Company of the city of New York," and acts amendatory thereof.

412. Int. 778. An act authorizing and empowering the town board of the town of Montour, Schuyler county, New York, to change and straighten the course of Catherine creek.

413. Int. 569. An act to provide for jury trials in certain cases.

414. Int. 748. An act repealing certain acts and parts of acts.

415. Int. 620. An act making appropriations for the payment of the canal awards of the Board of Claims.

416. Int. 623. An act to reappropriate certain moneys in the treasury for the improvement of the Champlain canal and the Glens Falls feeder.

417. Int. 765. An act to provide for the building of sidewalks on the bridge over the Erie canal on George street in the city of Rome.

418. Int. 701. An act to provide for the drainage and for the filling up of the prism and the lock of the abandoned Chemung canal, in the village of Corning, Steuben county, and appropriating certain moneys for such purpose.

419. Int. 622. An act reappropriating money for the payment of sums due to contractors for work on the canals, and authorizing the temporary investment of canal funds.

420. Int. 702. An act to reappropriate the sum of $4,000 for the further completion of the slope wall on the south side of the late abandoned Chemung canal, in the town of Corning.

421. Int. 767. An act to authorize the construction of a stop-gate in the Rome level of the Erie canal.

G. O.

422. Int. 357. An act relating to the board of aldermen of the city of New York.

423. Int. 649. An act to authorize the board of fire commissioners of the city of New York to inquire into and determine the claim of Andrew J. Brady to be placed upon the pension-roll of the fire department of said city.

424. Int. 717. An act relative to the Riverside park and drive in the city of New York.

425. Int. 759. An act relating to assessments for local improvements in the city of New York. (Recommitted to the Committee on Cities.)

426. Int. 760. An act to amend chapter 522 of the Laws of 1883, entitled "An act laying out public places and parks and parkways in the twenty-third and twenty-fourth wards of the city of New York, and in the adjacent district in Westchester county, and authorizing the taking of the lands of the same." (Recommitted to the Committee on Cities.)

427. Int. 70. An act to amend chapter 43 of the Laws of 1884, entitled "An act to center responsibility in the municipal government of the city of New York." (Recommitted to the Committee on Cities.)

428. Int. 650. An act to amend chapter 410 of the Laws of 1882, entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York." (Recommitted to the Committee on Cities.)

429. Int. 583. An act to lay out and establish a permanent exterior street along a portion of the East river in the city of New York, and to alter the map or plan of the city of New York to conform thereto. (Recommitted to the Committee on Cities.)

431. Int. 818. An act to amend the official map of Long Island City, and to provide compensation for loss or damage by reason thereof.

433. Int. 839. An act to extend and supplement the rights, powers and duties of the New York Arcade Railway Company, and to regulate the construction of its railway. (Recommitted to the Committee on Railroads.)

434. Int. 793. An act in relation to corporations now organized or hereafter organized for the purpose of constructing and operating surface-railways, or railways underground in any of the cities of the State.

435. Int. 66. (Senate.) An act to amend the title of an act, entitled "An act to authorize the construction of a street railroad in the city of Auburn," passed April 15, 1871.

G. O.

436. Int. 444. An act to abolish the office of captain of the port of New York and the office of harbor master.

437. Int. 772. An act to amend section 261 of chapters 4 and 9 of the Laws of 1882, entitled "An act to revise the statutes of this State relating to banks, banking and trust companies." (Recommitted to the Committee on Banks.)

438. Int. 525. An act to amend chapter 477 of the Laws of 1883, entitled "An act to amend chapter 409 of the Laws of 1878, entitled 'An act for the preservation of the public peace, the protection of private property, and the maintenance of the law and good order in the town of Flatbush, in Kings county.'"

439. Int. 47. (Senate.) An act to authorize and empower the supervisor of the town of New Lots, Kings county, to issue town bonds to refund certain other town bonds.

440. Int. 768. An act to amend chapter 199 of the Laws of 1869, entitled "An act to incorporate the village of Whitestone, in Queens county." (Recommitted to the Committee on Villages.)

441. Int. 804. An act to amend chapter 523 of the Laws of 1870, entitled "An act to incorporate the village of New Berlin, in county of Chenango, and to repeal its present charter."

442. Int. 463. An act to amend chapter 192 of the Laws of 1885, entitled "An act to amend chapter 291 of the Laws of 1870, entitled 'An act for the incorporation of villages.'"

443. Int. 769. An act to provide for supplying the village of Whitestone, in Queens county, with water, light, sewer, and new and improved streets. (Recommitted to the Committee on Villages.)

444. Int. 61. (Senate.) An act to legalize and confirm certain proceedings of the board of trustees of the village of Batavia, relating to guttering, curbing and paving streets in said village, and to authorize the collection of unpaid taxes therefor.

445. Int. 735. An act for the improvement of that part of Jackson avenue situated in the town of Newtown, Queens county. (Recommitted to the Committee on Roads and Bridges.)

446. Int. 655. An act in relation to highways in and adjacent to the cities of this State. (Recommitted to the Committee on Roads and Bridges.)

447. Int. 733. An act to authorize the town of Westchester, in the county of Westchester, to raise money to pay a judgment against the commissioners of the Eastern boulevard. (Recommitted to the Committee on Roads and Bridges.)

448. Int. 590. An act to provide for the building of post and wire fences.

G. O.

449. Int. 805. An act to abolish the Regents of the University of the State of New York, and to transfer their powers and duties to other officers. (Recommitted to the Committee on Public Education.)

450. Int. 682. An act to empower the boards of supervisors of the several counties of the State of New York to vote moneys for the erection, repairing or remodeling of monuments to the veterans of the late war of the rebellion.

451. Int. 700. An act to give the board of claims jurisdiction to hear, audit and determine the claim of Alonzo P. Strong against the State and exempting the same from the limitation contained in section 7 of chapter 205 of the Laws of 1883, as amended by chapter 60 of the Laws of 1884.

452. Int. 510. An act to amend chapter 283 of the Laws of 1885, entitled "An act to establish a Forest Commission, and to define its powers and duties, and for the preservation of forests."

453. Int. 741. An act to amend chapter 287 of the Laws of 1879, entitled "An act to provide for the formation of county and town co-operative insurance companies."

454. Int. 854. An act to revise and consolidate chapter 287 of the Laws of 1879, and chapter 362 of the Laws of 1880, relating to the formation of town and county co-operative insurance companies, and the acts amendatory thereof.

455. Int. 319. An act to amend chapter 534 of the Laws of 1879, entitled "An act for the preservation of moose, wild deer, birds, fish and other game," as amended by chapter 531 of the Laws of 1880, and as amended by chapter 584 of the Laws of 1880, and as still further amended by chapter 121 of the Laws of 1885.

456. Int. 781. An act to amend chapter 534 of the Laws of 1879, entitled "An act for the preservation of moose, wild deer, birds, fish and other game." (Recommitted to the Committee on Game Laws.)

457. Int. 796. An act to regulate the maintenance and construction of eel weirs in the Oneida and Oswego rivers.

458. Int. 670. An act to amend chapter 11 of the Laws of 1886, entitled "An act to amend chapter 242 of the Laws of 1885, entitled 'An act to amend chapter 534 of the Laws of 1879, entitled 'An act for the preservation of moose, wild deer, birds, fish and other game.'" (Recommitted to the Committee on Game Laws.)

459. Joint resolution relative to the planting of trees.

G. O.

460. Int. 799. An act making an appropriation to aid in the reconstruction of the State bridge across the Sacandaga river, in the town of Hadley, in the county of Saratoga, and authorizing the boards of supervisors of Saratoga and Warren counties to levy and collect a portion of the cost of such bridge upon certain towns in such counties.

461. Int. 1019. An act to provide for an annual inspection of all gas meters used in and for the State of New York, and for regulating the appointment and defining the duties of inspectors of gas meters. (Recommitted to the Committee on Ways and Means.)

462. Int. 875. An act to establish a State board of agriculture. (Recommitted to the Committee on Ways and Means.)

463. Int. 999. An act entitled "An act to create a board of telegraph commissioners." (Recommitted to the Committee on Ways and Means.)

464. Int. 127. An act for the relief of Gaff, Fleischmann & Company.

465. Int. 970. An act to further provide for raising taxes for the use of the State upon certain foreign corporations, joint-stock companies and associations. (Recommitted to the Committee on Ways and Means.)

466. Int. 393. An act in relation to the Real Estate Exchange and Auction Room (Limited).

467. Int. 948. An act to incorporate the Bullion, Deposit and Transfer Association.

468. Int. 835. An act to amend section 3311 of the Code of Civil Procedure.

469. Int. 831. An act to amend chapter 410 of the Laws of 1882, entitled "An act to consolidate into one act, and to declare the special and local laws affecting public interests in the city of New York."

470. Int. 904. An act in relation to the salary of the interpreter of the City Court of New York.

471. Int. 986. An act to repeal section 3 of chapter 512 of the Laws of 1879, entitled "An act to authorize gas-light companies to use electricity instead of gas for lighting streets, public places, and public and private buildings in cities, villages and towns within this State."

472. Int. 961. An act to amend chapter 598 of the Laws of 1881, entitled "An act to incorporate the New York Building and Improvement Company."

473. Int. 320. An act to amend section 2348 of the Code of Civil Procedure.

G. O.

474. Int. 191. An act to amend the Code of Civil Procedure.

475. Int. 906. An act to amend section 232 of the Code of Civil Procedure.

476. Int. 869. An act in relation to racing associations incorporated under the laws of this State. (Recommitted to the Committee on the Judiciary.)

477. Int. 742. An act relative to persons convicted of crimes and misdemeanors. (Recommitted to the Committee on the Judiciary.)

478. Int. 69. (Senate.) An act to amend section 442 of the Penal Code, entitled "Use of certain dredges."

479. Int. 38. (Senate.) An act to amend section 1 of chapter 398 of the Laws of 1883, entitled "An act to amend section 11 of article 1 of title 1 of chapter 16 of part first of the Revised Statutes.

480. Int. 53. (Senate.) An act to amend subdivision 1 of section 278 of the Penal Code.

481. Int. 83. (Senate.) An act to amend an act entitled "An act to incorporate the 'New York Warehousing Company,'" passed April 8, 1857.

482. Int. 36. (Senate.) An act to legalize and confirm the official acts of notaries public.

483. Int. 64. (Senate.) An act to amend section 2 of chapter 28 of the Laws of 1883, entitled "An act to grant to Charles O. Scott certain land under water of the Niagara river, for docks and commercial purposes."

484. Int. 62. (Senate.) An act to amend the Penal Code (§ 356).

485. Int. 54. (Senate.) An act to provide for the assessment of telegraph, telephone and electric light lines.

486. Int. 75. (Senate.) An act providing for the certification and signing of records by county clerks.

487. Int. 59. (Senate.) An act to amend section 1525 of the Code of Civil Procedure.

488. Int. 1021. An act for the incorporation of political clubs.

489. Int. 838. An act to amend chapter 110 of the Laws of 1876, entitled "An act supplemental to chapter 60 of the Laws of 1813, entitled 'An act to provide for the incorporation of religious societies,' and of the several acts amendatory thereof."

490. Int. 92. An act to repeal chapter 301 of the Laws of 1885, entitled "An act to define the duties of the overseers of the poor and the superintendent of the alms-house in the county of Albany in certain cases."

G. O.

491. Int. 924. An act to create a board of gas commissioners and to define and regulate its powers and duties. (Recommitted to the Committee on General Laws.)

492. Int. 990. An act to amend chapter 482 of the Laws of 1875, entitled "An act to confer on boards of supervisors further powers of local legislation and administration, and to regulate the compensation of supervisors." (Recommitted to the Committee on General Laws.)

493. Int. 1002. An act to authorize the Superintendent of Public Works to remove certain obstructions from bed of Mill creek at and in the vicinity of the Erie canal culvert, through which said creek passes, in the city of Schenectady, and to enlarge said culvert, if necessary.

494. Int. 580. An act to alter and amend a map or plan of the portion of the city of New York by discontinuing Cottage avenue, between North Third avenue and One Hundred and Sixty-fifth street in the Twenty-third ward of said city. (Recommitted to the Committee on Cities.)

495. Int. 706. An act to fix and determine the annual salary and compensation of captains of the police force in all cities of this State having according to the last census a population exceeding 800,000.

496. Int. 893. An act to amend chapter 863 of the Laws of 1873, entitled "An act to amend the charter of the city of Brooklyn and the various amendments thereof," passed June 28, 1873. (Recommitted to the Committee on Cities.)

497. Int. 894. An act to amend chapter 438 of the Laws of 1877, entitled "An act to create a police pension fund for disabled and retired policemen in the city of Brooklyn," passed June 15, 1877. (Recommitted to the Committee on Cities.)

498. Int. 814. An act relating to the administration of the local government of the city of New York, and to abolish water rents, except for manufacturing and business purposes. (Recommitted to the Committee on Cities.)

499. Int. 762. An act to authorize, provide for and regulate certain investments by the commissioners of the sinking fund of the city of New York.

500. Int. 868. An act to authorize the department of public parks of the city of New York to change and establish streets and avenues and the lines and grades thereof in that section of the city of New York bounded on the south by One Hundred and Thirty eighth street, on the north by St. Mary's street, on the west by St. Ann's avenue, and on the east by Trinity avenue. (Recommitted to the Committee on Cities.)

G. O.

501. Int. 718. An act conferring certain powers upon the department of public parks in the city of New York, relative to the twenty-third and twenty-fourth wards in said city. (Recommitted to the Committee on Cities.)

502. Int. 794. An act to amend an act entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York." (Recommitted to the Committee on Cities.)

503. Int. 971. An act to amend chapter 410 of the Laws of 1882, entitled "An act to consolidate into one act, and to declare the special and local laws affecting public interests in the city of New York, passed July 1, 1882." (Recommitted to the Committee on Cities.)

504. Int. 856. An act to amend chapter 412 of the Laws of 1873, entitled "An act to amend an act entitled 'An act to authorize the town of Johnstown, in the county of Fulton, to issue town bonds and loan the same to the Fonda, Johnstown and Gloversville Railroad Company, and to regulate the rate of charges for carrying passengers upon said road," passed May 6, 1873.

505. Int. 368. An act relating to the interchanging of traffic with the New York and New England railroad.

506. Int. 968. An act to amend chapter 529 of the Laws of 1879, entitled "An act restricting the right to grant, use or occupy certain streets in the city of New York for the purposes of an elevated railroad." (Recommitted to the Committee on Railroads.)

507. Int. 965. An act to amend chapter 410 of the Laws of 1882, entitled "An act to consolidate into one act, and to declare the special and local laws affecting public interests in the city of New York," passed July 1, 1882, and the amendments thereto. (Recommitted to the Committee on Railroads.)

508. Int. 966. An act to amend chapter 606 of the Laws of 1875, entitled "An act further to provide for the construction and operation of a steam railway or railways in the counties of the State, and the amendments thereto. (Recommitted to the Committee on Railroads.)

509. Int. 938. An act to authorize street surface railroad companies within this State to adopt and use cable traction for the propulsion of their cars. (Recommitted to the Committee on Railroads.)

510. Int. 817. An act to provide for the designation of a superintendent of docks in the city of Brooklyn, and to confer the powers of harbor-masters on said superintendent in relation to certain docks, wharves and piers in said city.

G. O.

511. Int. 663. An act to amend chapter 201 of the Laws of 1876, entitled "An act to prevent frauds in the sale of staterooms, berths and tickets upon steamboats and steamships and other vessels." (Recommitted to the Committee on Commerce and Navigation.)

512. Int. 803. An act to amend section 272 of chapter 409 of the Laws of 1882, entitled "An act to revise the statutes of this State relating to banks, banking and trust companies. (Recommitted to the Committee on Banks.)

513. Int. 907. An act to amend an act entitled "An act to conform the charters of all savings banks or institutions for savings to a uniformity of powers, rights and liabilities and to provide for the organization of savings banks, for their supervision and for the administration of their affairs," passed May 17, 1875. (Recommitted to the Committee on Banks.)

514. Int. 758. An act to permit the sale of malt beverages and light wines during certain hours on Sundays in the cities of New York, Brooklyn, Albany, Buffalo, Rochester, Troy, Syracuse and Utica. (Recommitted to the Committee on Excise.)

515. Int. 811. An act to enable the people of the several counties to prohibit the importation and sale of intoxicating liquors. (Recommitted to the Committee on Excise.)

516. Int. 819. An act to prohibit the sale of intoxicating liquors in any building or upon any premises belonging to the State of New York.

517. Int. 909. An act to amend chapter 324 of the Laws of 1850, entitled "An act for the preservation of the public health," and the acts amendatory thereof. (Recommitted to the Committee on Public Health.)

518. Int. 526. An act to amend section 1 of chapter 37 of the Laws of 1877, entitled "An act to amend section 1 of chapter 638 of the Laws of 1867, entitled 'An act authorizing the New York Society for the Relief of the Ruptured and Crippled to hold real and personal estate.' "

519. Int. 922. An act to amend chapter 555 of the Laws of 1864, entitled "An act to revise and consolidate the general acts relating to public instruction," and the acts amendatory thereof and supplementary thereto.

520. Int. 192. An act to set off Lloyd's Neck from the town of Oyster Bay, Queens county, and annex the same to the town of Huntington, Suffolk county.

521. Int. 1054. An act to alter the boundaries of the towns of Colton and Parishville, in the county of St. Lawrence. (Recommitted to the Committee on Civil Divisions.)

G. O.

522. Int. 457. An act to amend chapter 183 of the Laws of 1885, entitled "An act to prevent deception in the sale of dairy products, and to preserve the public health."

523. Int. 967. An act to amend chapter 410 of the Laws of 1882, entitled "An act to consolidate into one act, and to declare the special and local laws affecting public interests in the city of New York," passed July 1, 1882, and the amendments thereto. (Recommitted to the Committee on Railroads.)

525. Int. 951. An act for the relief of the village of Canastota.

526. Int. 984. An act to amend chapter 144 of the Laws of 1880, entitled "An act to amend section 5, title 3 of chapter 291 of the Laws of 1870, entitled 'An act for the incorporation of villages.'" (Recommitted to the Committee on Villages.)

527. Int. 980. An act to extend the boundaries of the village of Suspension Bridge, New York.

528. Int. 992. An act to further amend section 2 of title 5 of chapter 204 of the Laws of 1864, as amended by chapter 423 of the Laws of 1871, entitled "An act to amend and consolidate the several acts relating to the village of Lansingburgh."

529. Int. 1009. An act to annex certain territory in the town of East Chester, county of Westchester, to the village of Mount Vernon, in said county; and to provide for the representation of the inhabitants of said territory in the board of trustees of said village, and to amend the charter of said village and other laws relating thereto. (Recommitted to the Committee on Villages.)

530. Int. 396. An act to extend the boundaries of the village of Niagara Falls.

531. Int. 774. An act to amend chapter 184 of the Laws of 1881, entitled "An act to revise the charter of the city of Yonkers," and the acts amendatory thereof.

532. Int. 941. An act in relation to claims against the city of Brooklyn. (Recommitted to the Committee on Cities.)

533. Int. 825. An act to repeal chapter 395 of the Laws of 1884, entitled "An act in relation to extending certain streets and avenues in the city of Brooklyn beyond high-water mark." (Recommitted to the Committee on Cities.)

534. Int. 873. An act in relation to the gas companies in the city of New York. (Recommitted to the Committee on Cities.)

535. Int. 789. An act to provide for the erection of a police station-house in the fourteenth police precinct of the city of Brooklyn. (Recommitted to the Committee on Cities.)

G. O.

536. Int. 942. An act to further amend chapter 377 of the Laws of 1880, entitled "An act in relation to the government of the city of Brooklyn." (Recommitted to the Committee on Cities.)

537. Int. 959. An act in relation to the board of aldermen of the city of Brooklyn. (Recommitted to the Committee on Cities.)

538. Int. 813. An act in relation to the county jail of the city and county of New York and regulating the control and management thereof. (Recommitted to the Committee on Cities.)

539. Int. 747. An act to amend chapter 218 of the Laws of 1884, entitled "An act to regulate the commitment and discharge of certain prisoners, tramps and vagrants in Albany county, and to prescribe the effect thereof, to provide for the support of the prisoners in the jail in the city of Albany, and to fix the duties and compensation of the sheriff of said county and of certain employees in the jail in said city."

540. Int. 268. An act to amend chapter 340 of the Laws of 1883, entitled "An act to regulate the sale of intoxicating liquors in cities having a population of over 300,000, as amended by chapter 323 of the Laws of 1885."

541. Int. 959. An act to amend chapter 276 of the Laws of 1864, entitled "An act in relation to the sale, use and disposition of butts, hogsheads, barrels, casks or kegs used by the manufacturers of malt liquors."

542. Int. 497. An act to amend chapter 229 of the Laws of 1885, entitled "An act in relation to the street railroads in the city of Buffalo."

543. Int. 862. An act to provide for certain improvements in the town of New Lots, and to provide money by the issue of bonds and laying assessments for the expense thereof.

544. Int. 1032. An act in relation to the deposits of insurance companies.

545. Int. 940. An act to provide for the revision of the special and local laws affecting public interests in the city of Brooklyn. (Recommitted to the Committee on Cities.)

546. Int. 887. An act to authorize the Superintendent of State Prisons to afford to Perry & Company certain facilities for the storage and removal of their property after the expiration of their contract.

G. O.

547. Int. 858. An act to amend chapter 169 of the Laws of 1877, entitled "An act to provide means for the support of the Inebriates' Home for Kings county, and for the government of the said home, and to amend the several acts relating thereto," passed May 9, 1867, April 13, 1868, May 14, 1872, and June 21, 1875.

548. Int. 910. An act further to amend chapter 27 of the Laws of 1875, entitled, as amended by chapter 30 of the Laws of 1881, "An act to designate the holidays to be observed in the acceptance and payment of bills of exchange, bank checks and promissory notes, and relating to the closing of public offices." (Recommitted to the Committee on the Judiciary.)

STATE OF NEW YORK.

No. 86.

IN ASSEMBLY,

MARCH 24, 1886.

ANNUAL FINANCIAL REPORT

OF THE SAILORS' SNUG HARBOR.

STATE OF NEW YORK:
EXECUTIVE CHAMBER,
ALBANY, *March* 24, 1886.

To the Legislature:

I have the honor to transmit herewith the annual financial report of Sailors' Snug Harbor.

DAVID B. HILL.

REPORT

To the Honorable the Legislature of the State of New York:

The annual report of the Controller of the "Sailors' Snug Harbor, in the city of New York," showing the receipts and disbursements of the trust from the 1st day of January to the 31st day of December, 1885. Showing also the present state of the funds, and an estimate of the income for the year 1886:

RECEIPTS.

Balance of cash on hand 31st December, 1884	$14,442 33
Amount of New York city bond, due 1st May, 1885	5,500 00
On account of principal of bond and mortgage	7,500 00
Dividends on Marine Bank balance	6,079 08
For sundries sold by governor of the institution for account of the trustees, and for use of the harbor dock, etc	3,872 48
For rents during the year	284,070 18
For interest on investments, etc	22,383 07
	$343,847 14

DISBURSEMENTS.

Loan on bond and mortgage	$20,000 00
Temporary deposit in trust company	10,000 00
Purchase of land, viz.: trustees' property on Staten Island	21,000 00
Improvements and repairs on the institution buildings,	85,821 86
Expenses of the institution for maintenance of the inmates, including taxes and insurance	182,689 34
Balance of cash 31st December, 1885	24,335 94
	$343,847 14

STATEMENT OF THE FUNDS.

Buildings obtained by purchase and foreclosure of mortgage, etc	$362,867 74
Loans on bonds and mortgage	220,500 00
United States bonds, par value	50,000 00

New York city bonds, par value....	$104,500 00
Temporary deposits in trust companies.............	70,000 00
Marine Bank balance................................	24,316 32
Balance of cash, 31st December, 1885..............	24,335 94
	$856,520 00

ESTIMATED INCOME FOR THE YEAR 1886.

Rents of lots and buildings.........................	$297,015 00
Ground rents outstanding and being collected	4,056 00
Interest...	21,015 00
	$322,086 00

NEW YORK, *December* 31, 1885.

THOS. GREENLEAF,
Controller.

STATE OF NEW YORK.

No. 87.

IN ASSEMBLY,

MARCH 25, 1886.

REPORT

OF THE SUB-COMMITTEE OF THE WHOLE.

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 430, G. O. 336, entitled "An act to amend and revise sections 1 and 2 of title 4 of chapter 549 of the Laws of 1884, entitled 'An act to amend and revise chapter 65 of the Laws of 1859, entitled 'An act to revise and consolidate the act to incorporate the village of Hoosick Falls, and the several acts amending the same,'" reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson	Budlong	Lawlor	
Windolph	Titus	Henry	
Hall	Cheney	Gordon	9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 347, G. O. 268, entitled "An act to amend section 21 of article 1, title 3, chapter 13, part 1 of the Revised Statutes," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson	Budlong	Lawlor	
Windolph	Titus	Henry	
Hall	Cheney	Gordon	9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 457, G. O. 359, entitled "An act to amend chapter 647 of the Laws of 1872, entitled 'An act to incorporate the Shelter Island Grove and Camp Meeting Association of the Methodist Episcopal Church,'" reported in favor of the passage of the same with an amendment, by striking out in line 4 of section 1, the words "passed May 11, 1872."

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 426, G. O. 333, entitled "An act to repeal chapter 259 of the Laws of 1882, passed June 1, 1882, entitled 'An act to provide for additional ferry slips and facilities in New York city, for the ferries operated and running between Whitehall street, in the city of New York, and city of Brooklyn,'" reported in favor of the passage of the same with amendments as follows:

Section 1, line 2, strike out the words "passed June 1, 1882."

Also in the title strike out the words "passed June 1, 1882."

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 344, G. O. 265, entitled "An act to legalize the action of the electors and tax payers of the village of Whitehall, in Washington county, as expressed by their vote on the 12th day of November, 1885, exempting from assessment and taxation for local purposes certain lands and premises in said village," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 373, G. O. 290, entitled "An act to amend chapter 317 of the Laws of 1883, entitled 'An act to amend chapter 591 of the Laws of 1880, entitled 'An act for the appointment of game and fish protectors,'" reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 267, G. O. 215, entitled "An act in relation to the compensation of the overseers of the poor in the several towns in the county of Seneca, and to regulate the manner of granting relief to the poor of said towns by such overseers," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hotchkiss
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
10

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 427, G. O. 334, entitled "An act relative to the election of directors of town insurance companies carrying on business pursuant to the provisions of chapter 739 of the Laws of 1857, and chapter 305 of the Laws of 1881," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Assembly bill No. 195, G. O. 152, entitled "An act to amend an act entitled 'An act to consolidate and amend the several acts relating to the village of Sherburne, and to enlarge the powers of the corporation of said village,' passed March 18th, 1859," reported in favor of the passage of the same with amendments as follows:

Strike out the first two lines of section 1 and insert in lieu thereof the following: "Chapter 51 of the Laws of 1859, entitled 'An act to consolidate and amend the several acts relative to the village of Sherburne, and to enlarge the powers of the corporation of said village, as amended by chapter 172 of the Laws of 1868 and chapter 277 of the Laws of 1879, is hereby further amended by adding the following section, and shall be section 45."

Also, with the title amended so it will read, "An act further to amend chapter 51 of the Laws of 1859, entitled 'An act to consolidate and amend the several acts relating to the village of Sherburne, and to enlarge the powers of the corporation of said village,' as amended by chapter 172 of the Laws of 1868, and chapter 277 of the Laws of 1879."

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Senate bill No. 121, G. O. 394, entitled "An act to amend chapter 157 of the Laws 1882, entitled 'An act to amend chapter 176 of the Laws of 1872, entitled 'An act in relation to the village of Canandaigua, and to provide a police justice and police constables in the said village, and defining their powers and duties, and acts amendatory thereof,'" reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hotchkiss
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
10

Mr. Robinson, from the sub-committee of the whole, to which was referred the Senate bill No. 93, G. O. 393, entitled "An act to amend chapter 352 of the Laws of 1854, entitled 'An act in relation to the village of Canandaigua, and enlarging the powers and duties of the trustees of the said village,'" reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon.
9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Senate bill No. 119, G. O. 444, entitled "An act to legalize and confirm certain proceedings of the board of trustees of the village of Batavia, relating to guttering, curbing and paving streets in said village. and to authorize the collection of unpaid taxes therefor," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Senate bill, No. 79, G. O. 439, entitled "An act to authorize and empower the supervisor of the town of New Lots, Kings county, to issue town bonds to refund certain other town bonds," reported in favor of the passage of the same, without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon
9

Mr. Robinson, from the sub-committee of the whole, to which was referred the Senate bill No. 54, G. O. 330, entitled "An act to authorize railroad commissioners to issue town bonds in place of bonds lost or destroyed," reported in favor of the passage of the same without amendment.

Said bill was ordered reported by the following vote:

For the Affirmative.

Robinson
Windolph
Hall
Budlong
Titus
Cheney
Lawlor
Henry
Gordon 9

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